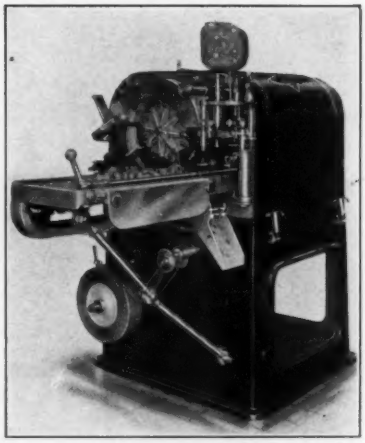
JULY . . . Carbohydrates to File . . . 1931

"Consumption on a wide scale, the mass consumption we need today, can be brought about only through better selling back of the actual point of sale—only through creating the type of products that quickly 'hit the spot' with consumers and with a large number of them."

Alvin E. Dodd,
Vice-President, Kroger Baking & Grocery Co.

The MANUFACTURING CONFECTIONER

HARD CANDY WRAPPING PROBLEMS



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Machinery
for
Double
and
Single Fan Tail

Compact, Tight and Beautiful Wrapping

with

PAPER OR CELLOPHANE

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MARIO TANZI & BROS., INC.

Automatic Wrapping and Filling Machinery

348 Commercial Street

Boston, Mass., U. S. A.

The MANUFACTURING CONFECTIONER

Vol. XI JULY, 1931 No. 7

CONTENTS

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INDEX TO

The Manufacturing Confectioner's Approved Advertising of

Confectioners' Machinery and Supplies

and Miscellaneous Advertising Directed to Manufacturing Confectioners

POLICY: THE MANUFACTURING CONFECTIONER *is essentially a manufacturers' publication and therefore is a logical advertising medium only for confectioners' supplies and equipment. The advertising pages of* THE MANUFACTURING CONFECTIONER *are open only for messages regarding reputable products or propositions of which the manufacturers of confectionery and chocolate are logical buyers.*

This policy EXCLUDES advertising directed to the distributors of confectionery, the soda fountain and ice cream trade. The advertisements in THE MANUFACTURING CONFECTIONER *are presented herewith with our recommendation. The machinery equipment and supplies advertised in this magazine, to the best of our knowledge, possess merit worthy of your careful consideration.*

MACHINERY AND EQUIPMENT

FLAVORING MATERIALS

CONFECTIONERS' SUPPLIES

MISC. RAW MATERIALS

GELATIN

FOR THE PACKAGE AND BAR GOODS DEPARTMENT

OIL LIMES....

DISTILLED EXPRESSED

◆ ◆

We offer limited stocks of Genuine West Indian Oil Limes Distilled and Expressed at attractive prices.

There appears to be a decided shortage of both types of this oil at the primary markets and in this country. It is an established fact that a cyclonic storm in the Tropics, occurring late last year, destroyed at least a portion of the expected crop for this season.

In addition, the growing demand for Oil Limes for use in extracts, beverages and similar preparations has increased the consumption of the oil noticeably.

We are prepared to supply you with your requirements up to a reasonable amount at the best prices prevailing today. Communicate with us for quotations —and samples if desired.

We Offer Also

Oil Lemon, Italian
Oil Orange, Italian
Oil Spearmint, U.S.P.
Oil Bergamot, Natural
Oil Peppermint, U.S.P.

◆ ◆

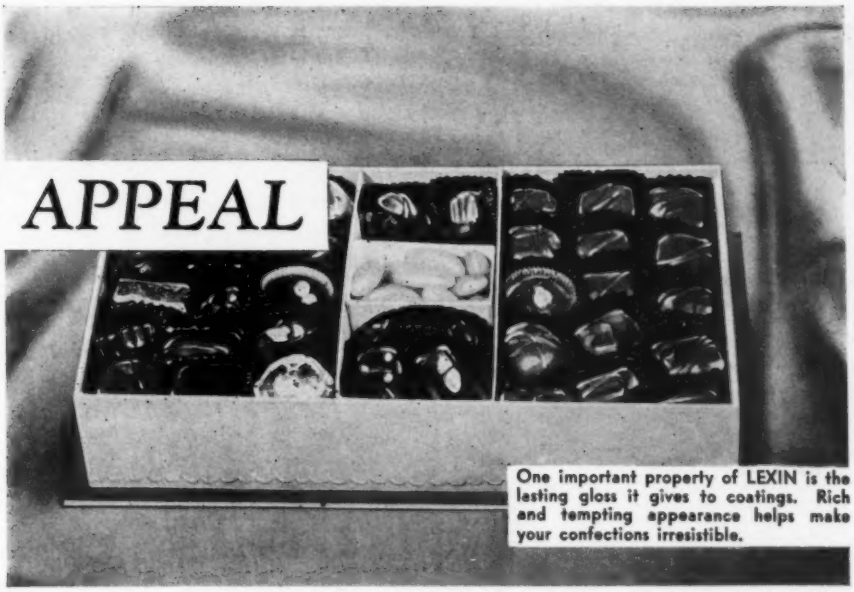
UNGERER & CO.

15 West 20th Street

NEW YORK

More *EYE APPEAL* for Your CHOCOLATES with LEXIN

[and more profit for you]



One important property of LEXIN is the lasting gloss it gives to coatings. Rich and tempting appearance helps make your confections irresistible.

"They LOOK delicious." Somebody is delightedly regarding a box of your chocolates, just now occupied in examining each attractive piece with a pleasurable little thrill of anticipation. It's really hard to decide, they all look so good. . . .

Manufacturers of quality candies have found that chocolate coatings containing a fractional percentage of LEXIN—for hand or machine work—dip up with an exceptionally desirable gloss and finish. This is particularly true of milk chocolates, which ordinarily do not take much gloss.

We have developed a new quality of LEXIN for chocolate and chocolate coatings.

It contains pure vegetable lecithin and pure pressed cocoa butter in convenient, effective and economical form and is identified by the letters "CB."

Many tests conducted in all parts of the country show conclusively that the use of LEXIN improves the gloss to a very marked extent as compared to the same or similar coating made without LEXIN.

While you may add LEXIN in the melting kettle, preferably to a low fat content coating, the incorporation may also be made during manufacture of the chocolate, often saving extra operations prior to enrobing and insuring maximum effectiveness.

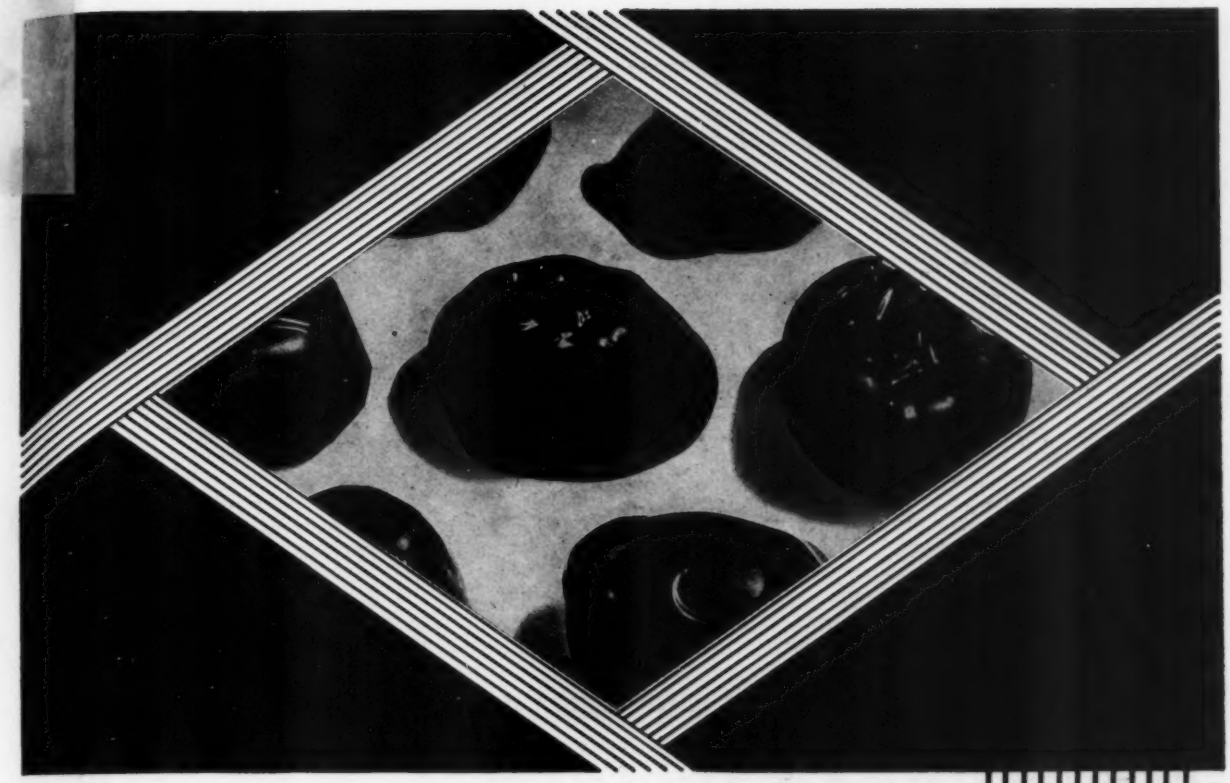
To create a compelling first-impression and keep your chocolate coated centers at their best you will find LEXIN invaluable.

For sample of LEXIN and complete details write

AMERICAN LECITHIN CORPORATION

ATLANTA, GEORGIA

Note: LEXIN is sold for use in chocolate under U. S. Patent 1781672. Other patents issued and pending.



PURITAN COATING

Opens a new world of possibilities for those manufacturers who are looking for something out of the ordinary.

PURITAN COATING

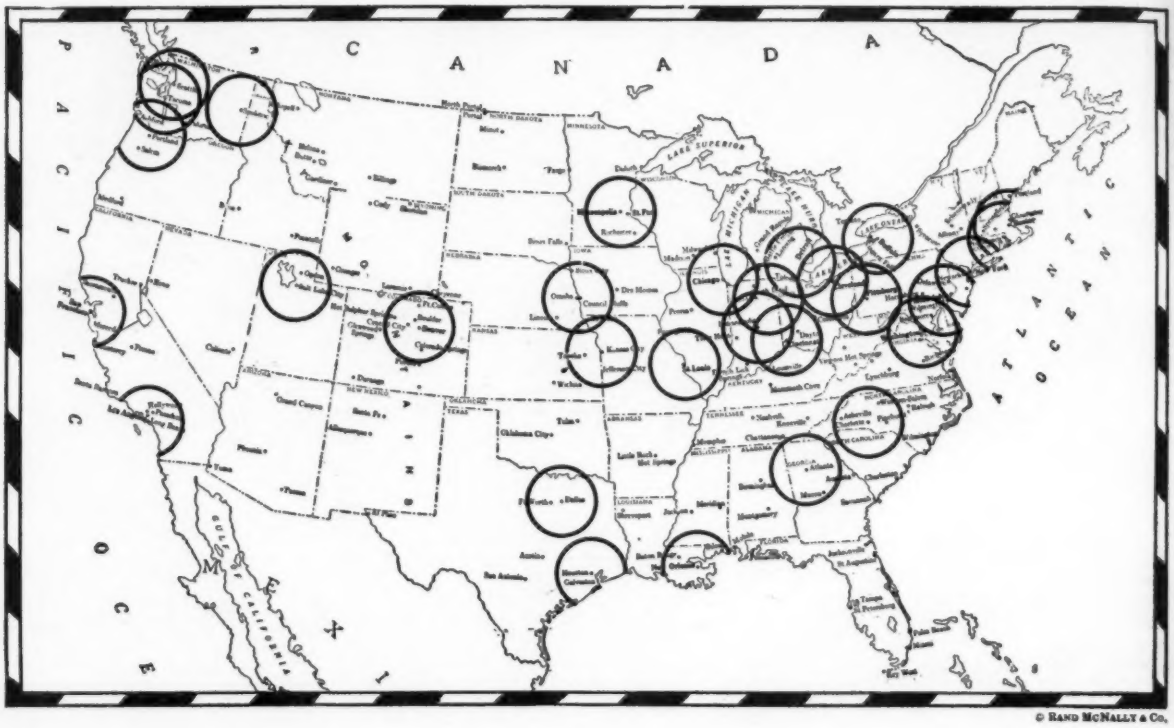
...finely ground from selected beans... adapted to any flavor... dips with a smooth and velvety finish of unusual attractiveness.

PURITAN COATING

...is a "Laboratory Controlled Product".

BROOKLYN, NEW YORK
BOSTON LOS ANGELES CHICAGO

ROCKWOOD & CO.



© Rand McNally & Co.

New Nation-wide Radio Campaign for Candy . .

Another big N.C.A. consumer campaign is now getting under way. It's the CANDY QUARTER HOUR, a new radio program that's going to reach about every radio listener in the country. Fifteen minutes of delightful music by a fourteen-piece orchestra and a famous harmony team, broadcast every Monday over a coast to coast hook-up, beginning October 5th. (5:45 Eastern Standard Time.)

Every program will carry short, striking messages about candy. Short so that everyone will listen. Striking so that the story of candy gets over. And before every holiday the harmony team will work an effective candy selling talk into their entertaining chatter.

This latest and biggest N.C.A. activity is a lot more than an educational campaign. It's a powerful selling force going direct to the consumers in your own territory. It will make them buy at the same time it gives them a new idea of candy. It's going to be one of the biggest things that's ever been done for the industry and for your own particular business. And it's coming now when the sales urge is needed.

This campaign is going to benefit everybody in the candy business. See that your salesmen tell jobbers and retailers all about it. Get every store with a radio set to tune in. Listen to the program yourself!

N.C.A. headquarters have prepared plenty of tie-in material for your use—bands to put around cartons, pails and boxes, window streamers, newspaper ads. You can get any quantity of these you need at cost.

Write now for all the details and for suggestions of other ways to tie in with this big campaign. Be ready to go.

EASTERN—Boston, WNAC; Buffalo, WGR or WKBW; Charlotte, WBT; Cincinnati, WKRC; Cleveland, WHK; Detroit, WXYZ; New York, WABC; Philadelphia, WCAU; Pittsburgh, WJAS; Providence, WEAN; Washington, WMAL • CENTRAL—Atlanta, WGST; Chicago, WBBM; Dallas, KRLD; Fort Wayne, WOWO; Houston, KTRH; Indianapolis, WFBM; Kansas City, KMBC; Minneapolis, WCCO; New Orleans, WDSU; Omaha-Council Bluffs, KOIL; St. Louis, KMOX • MOUNTAIN—Denver, KLZ; Salt Lake City, KDYL • PACIFIC COAST—Los Angeles, KHJ; Portland, KOIN; San Francisco, KFRC; Seattle, KOL; Tacoma, KVI; Spokane, KFPY.

NATIONAL CONFECTIONERS' ASSOCIATION
111 *West Washington Street* . . . *Chicago, Illinois*

If you want action in increasing your Candy Sales—

Put out an ALL FRUIT BOX

Containing

BLANKE-BAER DIPPING FRUITS

Pineapple Cubes
Peach Cubes
Dipping Raisins
Dipping Kumquats
Dipping Strawberries
Dipping Cherries

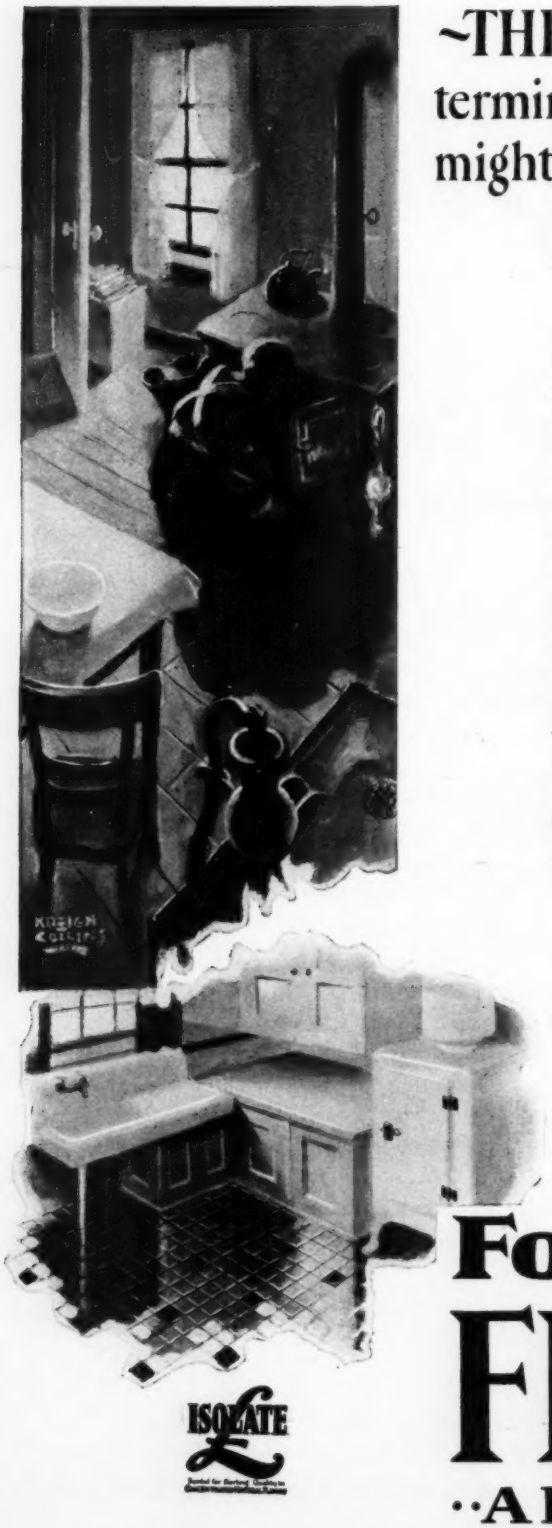
Now is the time to start working on this "All Fruit Box" so as to have it ready for your "Fall drive." You should also make it a rule to include in every box of your Fruit and Nut Assortment a liberal quantity of Fruit Filled Chocolates containing these Dipping Fruits.

Write for full information and contract prices

Blanke-Baer Extract & Preserving Co.

3224 South Kingshighway — Confectioners Educational Association Contributor — St. Louis, Mo., U. S. A.

WHEN the drudgery of the old-fashioned kitchen relegated leisure to dreamland-



~THEN, makeshift methods of determining your FLAVOR requirements might have taken the place of research

But Not Today!

Emancipation from the thralldom of household tasks has followed the development of modern, time-saving kitchen equipment. And freedom from uncertainty of results has followed for the confectioner who relies upon modern, scientific methods of determining flavor quality and adaptability.

In the development of flavor-making to its present scientific status, the house of F & J has played an important role. Not only has it striven ceaselessly toward perfection in production processes, but equally toward exact, scientific methods of testing its full line of flavors in the various grades and types of candy. Through constant checking and analytical control, it has succeeded in producing flavors that really fit your product — flavors that are not only of the highest quality, but that carry a scientific guarantee of complete adaptability.

Avail yourself of our valuable specialized cooperation in seeking for a profitable and satisfactory solution of your flavor problem. Send us the details of your story and we'll make our recommendations without charge or obligation.

The F & J organization is pledged to a program of service in behalf of the candy industry, of which it is an important part. It seeks to make the results of its research work; the advantages of its facilities; and the benefits of its nearly half-century of accumulated experience in solving flavor problems, available to those who acknowledge that candy is only as appealing as its flavor.

FOOTE & JENKS
JACKSON, MICHIGAN

ISOLATE

FOOTE & JENKS FLAVORS

··A Flavor for Every Use

Just-off-the-Press—

Savage's New Catalog of CANDY MACHINERY and Copper Work

Consult Savage on your Candy Production Problems.

NEW developments and Refinements in Candy Production Equipment

for manufacture of

- ☐ Caramel work
- ☐ Nougat
- ☐ Marshmallow
- ☐ Gum and Jelly work
- ☐ Pan work
- ☐ Cream work
- ☐ Cocoanut work
- ☐ Hard Candy Plastic, clear, stick, balls—
- ☐ Soft Mints
- ☐ Brittles
- ☐ Peanut Goods

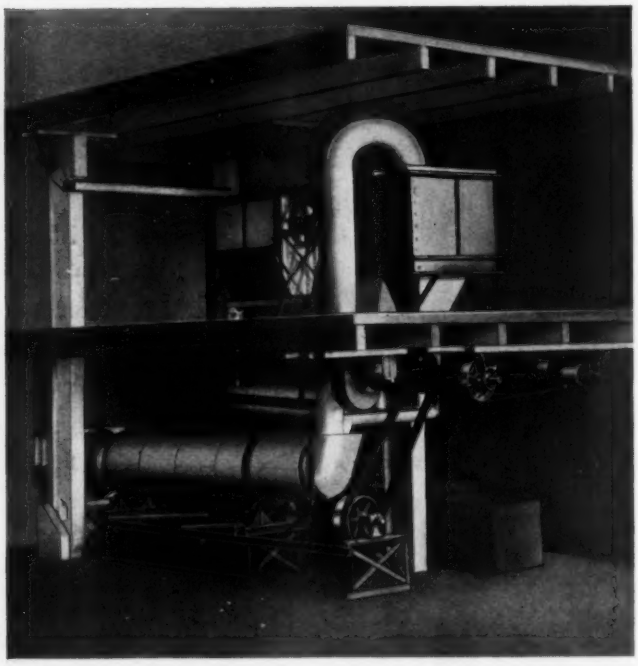
SAVAGE BROS. CO.,
2638 Gladys Ave., Chicago

Send copy of your new catalog and let us have your suggestions on equipment for the production of.....

☐..... ☐.....
☐..... ☐.....
☐..... ☐.....
☐..... ☐.....

Mail catalog to Mr. .....
Firm.....
Address.....

The BROAD SMILE that comes with Carefree Service



The Hersey Starch Conditioner operates under completely automatic temperature control. Starch is cleaned, cooled, and dried without danger of scorching or of insufficient drying.

THE Hersey Starch Conditioner is so simple and sure in operation that you are assured of years of carefree service with this equipment. There is nothing about the Hersey Starch Conditioner to get out of order. It synchronizes cleaning, cooling, and drying thereby lessening the number of steps to condition starch correctly.

In addition the Hersey Starch Conditioner pays for itself quickly. It saves time, labor, and overhead. It increases production, cuts the number of starch boards in half and handles full capacity of the Mogul. You cannot afford to overlook these factors today.

Let us tell you more about the Hersey Starch Conditioner. Write us today for further details.

HERSEY
STARCH CONDITIONER

HERSEY MANUFACTURING COMPANY

Main Office and Works:
Corner E and Second Sts., South Boston, Mass.

Branch Offices: NEW YORK CITY, 290 Broadway; PORTLAND, ORE., 475 Hoyt Street; PHILADELPHIA, PA., 314 Commercial Trust Bldg.; ATLANTA, GA., 510 Haas-Howell Bldg.; DALLAS, TEX., 402 Praetorian Bldg.; CHICAGO, ILL., 10 So. La Salle Street; SAN FRANCISCO, CAL., 690 Market Street; LOS ANGELES, CAL., 450 East Third Street.

Packages that tempt the appetite

wrapped in Cellophane on our machines . . .

Here are packages that make you want to enjoy the good things they contain—*packages that sell!*

Thanks to modern wrapping machinery, outstanding packages such as these can be produced at a cost which permits the goods to be sold at popular prices—prices which build large volume and good profits.

When Cellophane was first introduced, we immediately took steps to provide the machinery to handle this remarkable material. Today our Cellophane wrapping machines are recognized as standard equipment because of their dependability, economy and the fine packages they produce.

We are constantly working with manufacturers to develop new and better forms of packaging. When you have a packaging problem—whether it be to wrap a new product, or to give an old product greater sales appeal—bring it to us. *Solving problems built our business.*

PACKAGE MACHINERY COMPANY
Springfield, Massachusetts
New York Chicago Los Angeles
London: *Baker Perkins, Ltd.*

PACKAGE MACHINERY COMPANY

Over 150 Million Packages per day are wrapped on our Machines

It's Good Economy « « « « to Buy Good Thermometers

Equip with *Tycos* and Stop costly guesswork

Spoiled batches . . . off-color candy . . . too thin or too thick coating . .. . these all mean losses that eat up profits. Avoid them by careful temperature control with ***Tycos*** Instruments.

Tycos Thermometers are sturdily constructed to stand the hard usage in candy cooking and are designed to meet the specific needs of confectioners in accurately determining the temperatures of the different types of batches.

It is economy insurance to equip your cooking kettles, mixers, cream and chocolate melting kettles, coating machines and other equipment with ***Tycos*** Temperature Recorders and Regulators. Quality standards are sustained and uniformity assured.

A ***Tycos*** Representative will be glad to give you an estimate on equipping your production with ***Tycos*** Temperature Control. It may mean material savings to you and greater efficiency in your plant. Write us today.

Taylor Instrument Companies • **Rochester, N. Y., U. S. A.**

IN CANADA • *Taylor Instrument Companies* **of Canada, Ltd., Toronto**

NASHUA *Wraps*

Design is important—but no design is better than its reproduction in actual wrapper printing. The artist's drawing is the conception—realization comes in production.

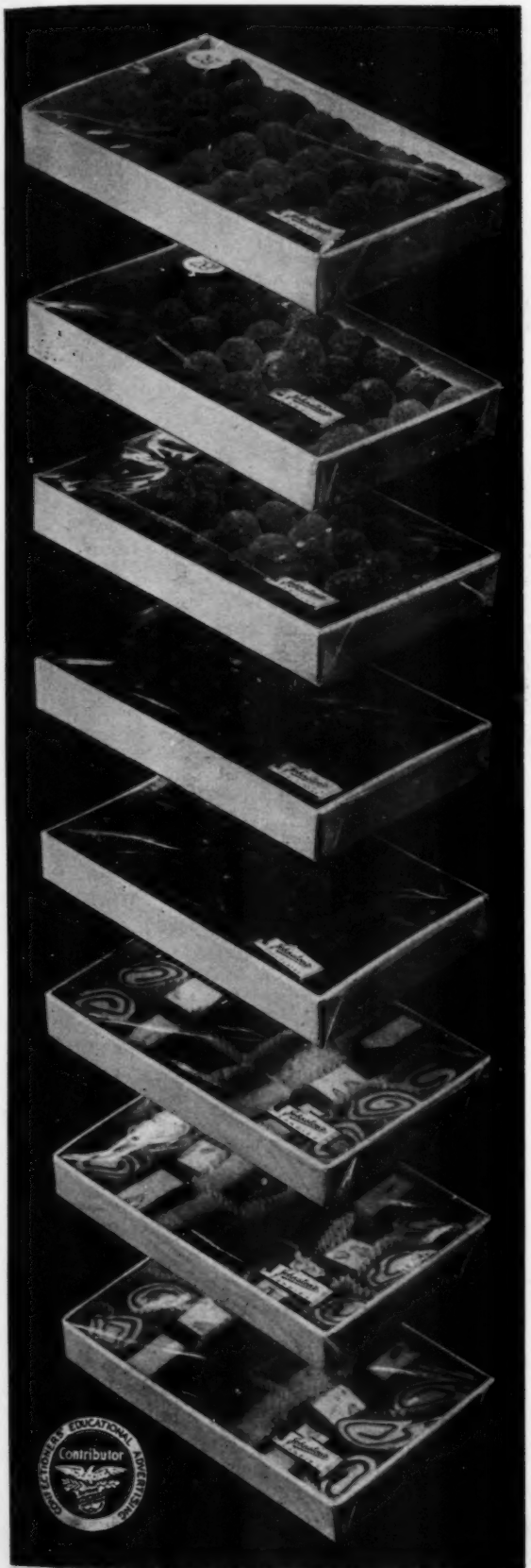
Nashua Wrappers reproduce the artist's design in full and true color—clean lines and full coverage of ink.

The wrapper performs two important services—it protects and preserves the quality and makes the first impression on the customer. It makes good-to-eat confections good-to-look-at. It makes the first introduction and is a vital factor in making the first sale.

The designing of effective wrappers is a highly specialized type of art work. Our art department is qualified to originate suitable and practical designs for our customers—for you, if you say so.

NASHUA *Gummed & Coated Paper Co.*

NASHUA . . . . . NEW HAMPSHIRE



Rapid turn for these popularly priced, Cellophane-wrapped units manufactured by Robert A. Johnston Company, Milwaukee.

NO GUESSWORK IN BUYING...

NO EFFORT IN SELLING

•

HERE is one of the latest and most successful ideas in candy merchandising—small units of boxed candy wrapped in transparent Cellophane.

With the eye and the appetite appeal which just a short time ago went only with five- and ten-cent candy items, these new units are catching the popular priced candy buyer who does not ordinarily buy boxed candy.

Transparent Cellophane shows the customer exactly what the box contains. The tempting display plus the popular price appeal of these boxed units makes sales easier. It stimulates many pick-up purchases.

Today is a good time to look into this new way of merchandising candy and of using Cellophane. Our Package Development Department will help if you desire. Write to Du Pont Cellophane Company, Inc., Empire State Bldg., New York City.

Cellophane

DU PONT CELLOPHANE
REG. U.S. PAT. OFF.

Cellophane is the registered trademark of the Du Pont Cellophane Company, Inc., to designate its transparent cellulose sheeting.

Editorial

Knock 72's for the Count

IF a vote of all manufacturers and all jobbers were taken on the question: "Do you favor 72-count goods?" the answers would be overwhelmingly in the negative. And, yet, after an eight or ten years' cessation of this unpopular practice it again appears to be gaining ground. Manufacturers, when asked "Why?" place the blame for having started it on the shoulders of other manufacturers. Of course, in order to meet competition, they are *compelled* to follow suit although they "don't approve the practice!" Another instance of the price we pay for the want of constructive cooperation.

Ask any candy jobber if he favors the short count items. He'll tell you "No!" and he'll tell you why. For one thing they make his bookkeeping more complicated; for another they add to his overhead; and for another they cut down his volume. The average retailer will buy just so many units, whether they be 72's or 120's—and no more. If you don't believe this ask any jobber's salesman. The loss in volume is apparent. So, the jobber loses some of his volume, the manufacturer loses some of *his* volume and the salesman earns less for the same amount of work. The retailer may think the short count favors him but any alert salesman can show him differently.

Then why 72-count merchandise? The answer is largely a lack of understanding and cooperation on the part of the various groups involved. A better coordinated and more closely organized industry would waste little time in nipping such unwanted practices in the bud. This industry can do it, too—if it wills!

Depression Moratorium

SEVERAL weeks ago President Hoover made a downcast and discouraged world jubilant by his proposal of a one year moratorium on all War debts to the U. S. and on all Reparations from Germany. Said the president:

"The purpose of this action is to give the forthcoming year to the economic recovery of the world and to help free the recuperative forces already in motion in the United States from retarding influences from abroad. The world-wide depression has affected the countries of Europe more severely than our own. . . . The essence of this proposition is to give time to permit debtor governments to recover their national prosperity. I am suggesting to the American people that they be wise creditors and good neighbors. . . ."

At this writing the debt moratorium is established and the conference of the powers is at work on the details of the President's plan. Rosier skies are reported over the business world; the psychological effect of the moratorium negotiations unquestionably has been good.

The effect of the President's proposal was both startling and dramatic; it was as though he had thrown a huge switch electrifying the entire world. Stocks, which

for months had been on the down-grade, suddenly registered spectacular gains; business is displaying genuine optimism—the first in a long time; most encouraging of all is the "rarin' to go" spirit everywhere in evidence. Given one or two more injections of President Hoover's Depression Cure and some constructive cooperation in our own industry and we'll see the old nag stepping off with an even stride at a satisfactory pace.

Businesses which come through the grilling of this epoch will have more vitality, stability and endurance because they will of necessity have sound policies and sound financial structure. The "Prosperity Campaign" launched this month by Williamson Candy Co. is one outstanding instance of the contagious optimism following the foreign debt moratorium. Let's hear from others with a program for bringing the candy business back into its own.

Soviet Sweets

AT the recent annual convention of the Pennsylvania Confectioners' Association one matter which absorbed the attention of the members was the alarming increase of Russian made candy now being imported into this country. During the first four months of 1930, less than 40,000 pounds of Soviet candy entered the U. S. The jump from that comparatively negligible quantity to somewhat over a million and a quarter pounds for the corresponding period of 1931 makes even the most conservative sit up and take notice. The Pennsylvania Association went so far as to adopt a resolution directed to the N. C. A. protesting this dumping of Russian candies on U. S. markets and urging further that individual members of the Association be encouraged to support this movement by personal letters of protest to their various congressional representatives.

Fair competition, even when it involves nations is altogether tolerable; competition which sets out to *undersell at any price* is demoralizing to legitimate trade and is intolerable. British manufacturers of sweets have had a taste of Russian competition. A member of Manchester Exchange was only recently quoted as follows:

"Our members have notified us that they do not object to fair trading competition. Their objection to this stand is based on the fact that Russian sweets are dumped on this market unpriced. However low the British manufacturer makes his price, the representatives of Russian manufacturers will go even lower. The Russians will dispose of their stocks at any price. Many of our members are convinced, too, that the determination of the Russians to flood the British market with stock has political significance. It is firmly believed on our exchange that the Russians are out to create unemployment and unrest in this country."

Another factor which has a direct bearing on our attitude toward the importation of Russian candies is the matter of sanitation. In this country food manufacturers have spent millions in their efforts to eliminate human contact with their various food products. We'll not argue that a consideration of production costs has not played as large a part in bringing this about as the desire for complete sanitation. The fact remains that the American people now prefer to buy foods "untouched by human hands." Russian candies do not come under this classification. Only recently we had a letter from a friend who was permitted to go through one of Moscow's largest candy factories. He reported that much of the work we do by machine, they do by hand. Specifically, he commented on the absence of wrapping machines of any kind. The wrapping machine has been a notable contribution toward increased sanitation in our own candy plants.

The quality of Russian candies exported to this country should be looked into, too, for only through the sale of pure, wholesome candies at fair prices will the per capita consumption of candy be increased.

The Russian Five Year Plan might work out all right—for Russia. But can we afford to permit its "successful" operation to jeopardize possibly *our* businesses? No? Well, you'd better drop your nearest congressman a little note to that effect before the Soviet's candy industry becomes a much more menacing competitor of ours than it is now!

Scientific Progress of the Candy Industry in Materials, Processes and Products During the Past Decade

By H. S. PAINE

Carbohydrate Division, Bureau of Chemistry and Soils, Washington, D. C.

(*Continued from May issue*)

Corn Sugar

The introduction of refined crystalline dextrose (corn sugar) is of the nature of a radical innovation and marks a distinct step forward in increasing the variety of sugars which are available for production of candy. Dextrose has, of course, been in use as a constituent of corn sirup ever since the introduction of corn sirup to the candy industry.

However, in corn sirup it is associated with dextrins and other carbohydrates, and there is a limit to the proportion in which it may be present, independent of these other constituents, even though a corn sirup of higher degree of conversion be used; but, by adding crystalline corn sugar it is possible to increase the proportion of dextrose in any degree desired.

Corn sugar presents some intriguing possibilities for the origination of new types of candies. Ever since the beginning of the candy industry the crystalline portion of candies has consisted of the sugar sucrose (cane or beet sugar), and this fact has had a powerful influence in determining the kinds of candies which it has been possible to produce. Even though dextrose is a constituent of corn sirup and corn sirup has been in use for years, the dextrose which it contains has always been present in the non-crystalline portion of candy. Now, by the aid of refined, crystalline corn sugar it becomes possible to produce candies in which the crystalline portion is composed of dextrose.[2]

Several properties of dextrose are so distinct from those of sucrose as to require modification of many features of the technic which candy makers have learned from handling sucrose. The fact that dextrose may crystallize in the form of a

Dr H S Paine

hydrate—that is, chemically combined with water—necessitates certain precautions, particularly with respect to the proportion of water present.

Dextrose is a "simple" sugar and is not subject to inversion by the action of "doctors" such as invertase, acids and acid salts, as is the case with sucrose. Thus the candy maker who uses corn sugar has had to revise many ideas based upon experience with sucrose.

Many of the specific advantages of crystalline corn sugar as a candy ingredient were not apparent when corn sugar was first introduced to the industry and only continued reseach from the standpoint of the difference in the properties of dextrose and sucrose has disclosed these advantages. Doubtless, continued investigation will result in the discovery of additional advantages.

The importance of the commercial introduction of a new sugar suitable for use in candy manufacture is better appreciated when it is realized how greatly the origination of new candies and of new variations in existing candies is dependent on the variety of raw materials, especially carbohydrate materials, which is available.

pH and Acidity Control

Increased appreciation of the importance of acidity control (measured in terms of the pH unit) has been a very constructive influence in controlling both the quality of candies and their stability during storage.

The degree of acidity influences the extent of inversion of sucrose during cooking of the batch and also affects the color resulting from heating. The degree of acidity (measured in terms of pH units) of the candy batch is a net resultant of the acidities of each of the ingredients, each being influenced by the other.

The acidity usually increases, furthermore, during the cooking of the batch. The extent of inversion of sucrose produced during the cooking of the batch is dependent principally on the degree of acidity (in pH units) and the time and temperature of heating; hence it is apparent that this is a rather complex matter and that a thorough understanding of the situation and careful control measures are necessary if candy containing the required proportions of sucrose and invert sugar is to be consistently produced.

A great advance in this direction has been made by estimating the quantity of invert sugar ordinarily produced by inversion in making candy of a given kind and then adding to the batch the necessary amount of invert sugar sirup to give the required total content of invert sugar in the finished candy.

Better Understanding of "Weak and Strong" Sugars

In connection with the subject of acidity control, a better understanding of the quality of different grades of granulated sugar from the standpoint of the slight amounts of non-

[2]Dr. Max A. Schneller, U. S. Patent No. 1,551,175, "Grained Confection and Process of Making Same."

sugar substances which they contain has been very helpful in controlling the degree of inversion during candy manufacture. *We now have a much more accurate conception of the cause of so-called "weak" and "strong" sugars and the way in which their behavior in the batch may be standardized.* This is a notable illustration of the replacement of rule of thumb observation by scientific knowledge. Although the various grades of granulated sugar show striking differences in behavior and in results produced, especially when used in making hard candy, it must be realized also that, of all the foods now on the market in quantity, granulated sugar is the most nearly pure individual chemical compound and the standards of quality applied to it are so exacting that one would not think of applying them to other food products. Furthermore, the standard of quality ordinarily applied to granulated sugar in making hard candy is the most exacting and rigorous requirement applied to sugar by any consuming industry. This is merely another way of indicating that slight differences in the quality of granulated sugar which would be of no importance whatever in many other consuming industries are easily detectable and are of importance in the candy industry, particularly in the manufacture of hard candy.

Moisture Control

There has been an important advance in knowledge of the behavior and function of moisture in candies, particularly its importance from the standpoint of stability and retarding of ageing, as well as more exact determination of the suitable limits of moisture content in candies of different types and the means of controlling the moisture content within these limits.

A very important development which has been of prime importance in controlling the moisture content of candy after manufacture and in permitting production, especially of gloss goods, regardless of the weather, is the introduction of air-conditioning equipment whereby the temperature and humidity of the factory atmosphere may be controlled within suitable limits. This insures the keeping of candy under suitable atmospheric conditions in the factory and the inclusion of an atmosphere of suitable humidity in the closed container when the candy is shipped out for distribution.

The use of air-conditioned storage at subsequent stages of distribution and the installation of refrigerated retail show cases complete the chain and insure delivery to the consumer of candy in fresh and undamaged condition. However, at the present time, the use of air-conditioned equipment at these subsequent stages is limited, and the precautions which can be taken by the manufacturer may often prove to be futile unless followed by suitable precautions on the part of subsequent handlers.

It should be recognized frankly that candy, certain types particularly, is a rather perishable product, and, as such, is entitled to receive treatment similar to that accorded to such commodities as butter and eggs. Not only does the perishability of candy vary according to the kind and the atmospheric conditions to which it is exposed, but the importance of the degree of deterioration is also subject to variation depending on the standard of quality imposed by the consumer.

On the whole, *the standards of the consumer as to quality are becoming more exacting, and defects which would not have been considered serious in times past may now constitute a grave indictment of quality.*

There are two outstanding factors which influence both the quality of candy (from the standpoint of consistency and texture) and its stability. These factors are the moisture content and the ratio of so-called "crystallizable" to "non-crystallizable" sugar. If these two factors could be accurately and consistently controlled, many difficulties would at once disappear. Both the moisture and the invert sugar content may change not only during the manufacture of the candy but afterward during storage, the degree varying greatly according to the kind of candy. There is a great opportunity to control moisture content through the use of hygroscopic materials in proper ratio to other materials and a very substantial advance in knowledge in this direction has been made.

Colloids and Starch

The various colloids used as raw materials are of interest in connection with the subject of controlling the moisture content of candy. The principal colloids of the candy industry are egg albumin, agar, gelatin, starch (boiled), and to a small extent gums such as arabic and tragacanth. To this collection has been added pectin, which has been found to have certain specific advantages in the production of jelly candies; and pectin is now in use to some extent.

These colloidal materials are characterized by their ability to absorb and hold relatively large quantities of water. The tenderness of texture of a candy is dependent principally upon the proportion of water it contains, and hence the importance of "water absorbers," such as the colloids mentioned, is apparent. These colloidal substances produce consistencies of different types, and this is a result to a great extent of their varying capacity for absorbing and retaining moisture.

Important progress has been made in the production of modified and thin-boiling starches. Not only is there a greater variety available, but the uniformity of quality has been improved.

The situation regarding modification of starches is somewhat analogous to the production of invert sugar from sucrose during the cooking of a candy batch, in that the starch may become modified to some extent during the cooking of the batch, thereby causing variations in the consistency of the final product. Starch candies have been little studied from a scientific standpoint, and there is here a great opportunity for clearing up the hitherto unexplained variations in consistency and quality which so frequently occur.

The contamination of molding starch resulting from repeated use is now better understood bacteriologically as well as from other standpoints. There is also better control of the moisture content of molding starch, and various defects in candy resulting from the use of unsuitable molding starch have now been remedied. The mechanical cleaning and drying of molding starch has been greatly improved.

Packages and Insect Infestation

Important progress has been made in wrappings and packages. The variety of metal foils has in-

creased, and their use is more extensive. Transparent cellulose wrappings and containers not only protect the candy, but reveal its attractive coloring.

During the past ten years much research effort has been devoted to the control of insect pests generally, and the insects which infest candy have also received attention. Although methods of dealing with insect infestation of products of the nature of candy are necessarily restricted on account of the danger of damaging the candy or introducing some poisonous substance, measures of control have nevertheless come into use and are yielding valuable results.

Chocolate and Fats

The chocolate industry, an accessory of the candy industry, has received its share of benefit from the application of scientific knowledge during the last decade. There has been a notable advance toward simplification of the cumbersome mechanical process which has heretofore been considered so necessary.

As it came to be realized that much of the grinding and refining of chocolate was occasioned by the necessity for reducing sugar crystals to particles of impalpable size, efforts to simplify this procedure were made, and methods have been developed for introducing sugar in more finely divided form into the chocolate at the beginning of the process. A method has even been proposed for intimately mixing chocolate liquor, sugar and cocoa butter by a spray process so as to eliminate a large proportion of the time and machinery required by present and past methods. The degree of grinding has been placed under scientific control, and as a result chocolate of the required fineness can be produced in an exact and consistent manner.

The use of lecithin prepared from soy beans has been an important recent development. A small proportion of lecithin has a pronounced effect on the consistency of cocoa butter, and if added in suitable proportion greatly increases the fluidity. It has also been claimed to retard "graying" materially.

Advances have been made in the variety of fats available for use in the industry. It is possible by means of hydrogenation to produce fats of a great variety of consistency, so that those of greater suitability for specific purposes can be selected according to the consistency and melting point required. The function of fats in candy is better understood, and advances have been made which make possible a higher degree of emulsification of fat in the finished product. This is an attainment greatly to be desired from a number of standpoints.

Candy flavors and colors have been improved in many respects, and in some cases improved vehicles more suitable for incorporation of colors and flavors for use in candy have been developed.

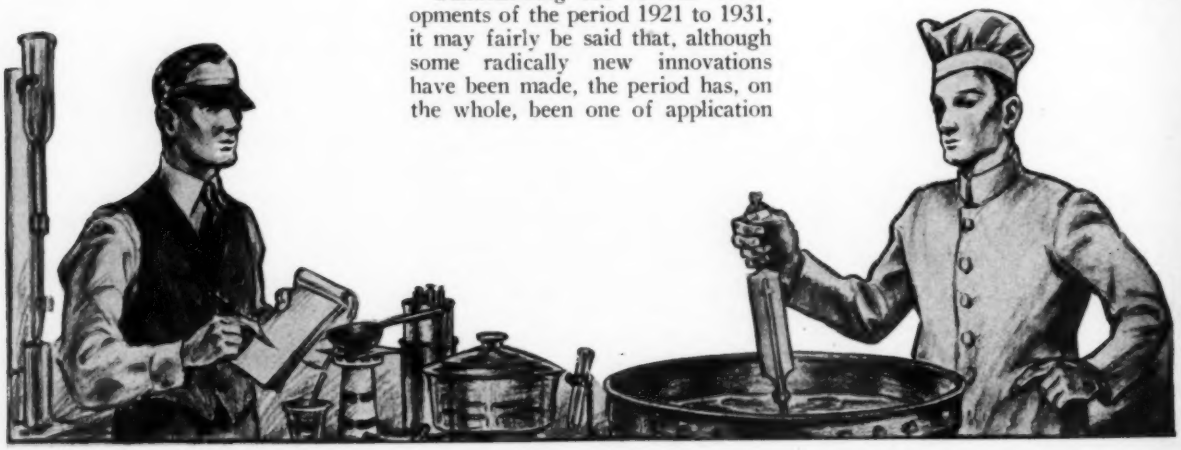
Forecast

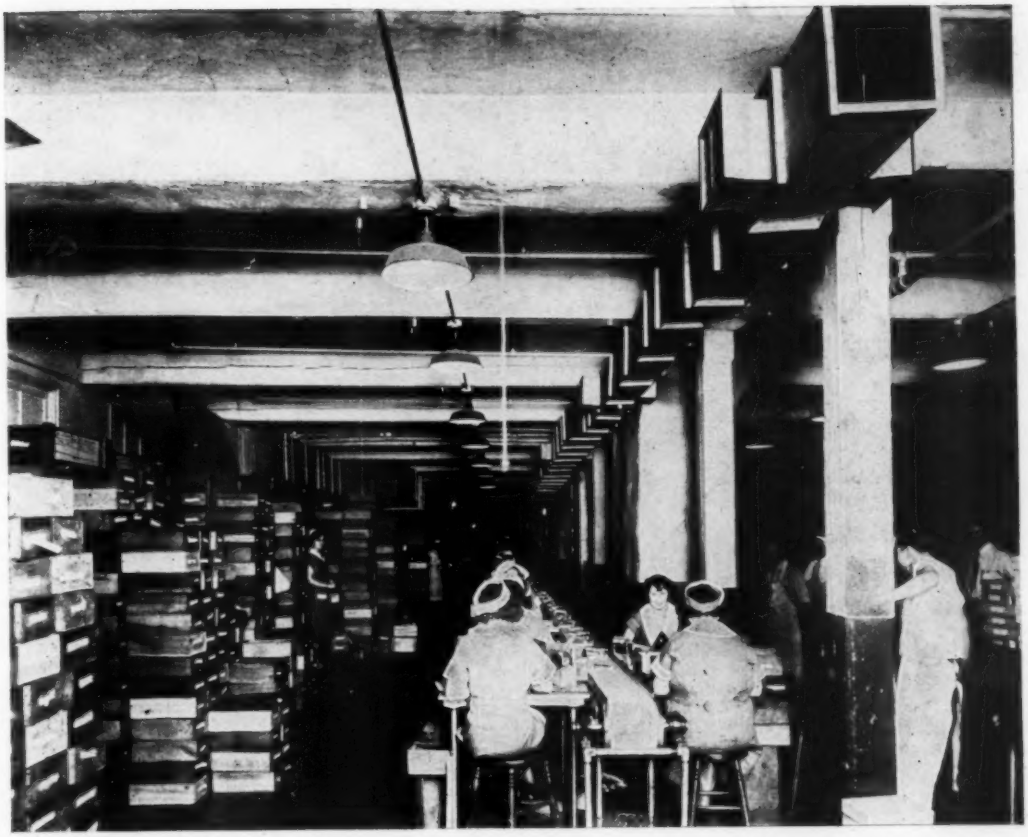
Summarizing the various developments of the period 1921 to 1931, it may fairly be said that, although some radically new innovations have been made, the period has, on the whole, been one of application of existing scientific knowledge in a way to insure closer control of products and the elimination of various production difficulties which existed heretofore. The day has now passed when the industry may tolerate the inefficient production practices which formerly prevailed.

This means a closer control of production from the specifications for purchase of raw materials to specifications of quality of the finished product. This tightening-up process is apparently a development of the present and the immediate future, and after this is completed and the position of the industry consolidated, so to speak, one may confidently anticipate important constructive progress reared on the scientific foundation now being laid.

This further progress will depend more and more upon an accurate knowledge of the physical and chemical properties of raw materials, and the way in which these properties are modified when the materials are used in mixture and manipulated by the various procedures used in candy manufacture.

The present-day candies have been developed by a "trial and error" method applied originally to raw materials of a limited range. Those of the future will in all probability be developed as a result of close cooperation between the chemist and the practical, experienced candy maker and full advantage will be taken of the increase in variety of raw materials available.





Air conditioned packing room with overhead duct system—tempered air is brought down the middle of the room, and goes out through the return duct opening off the far end of the room. On the left is a return duct from a floor overhead

Making *the* Right Weather *for* Candy Making

Modern Cooling Equipment the Obedient Servant of Today's Manufacturer

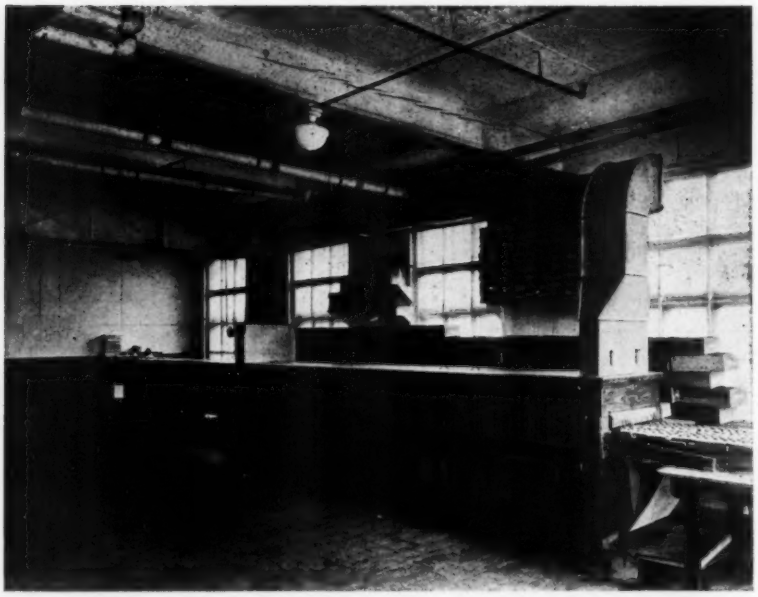
By TRESPER CLARK
Chemist, Nunnally's, Atlanta

This paper was read at the 17th Spring meeting of the A. S. R. E. in Atlanta, Ga., May, 1930. It was first published under the title "Refrigeration an Essential in Candy Manufacture."

THE rapid development of an industry demands scientific aid in order to enable that industry to meet the requirements of modern business. This is as true in candy manufacturing as in any other line. The confectionery industry realized that it must make use of the principle of mass production not only for production's sake but for the sake of high quality goods, and to keep up with the growing demand for their products they resorted to the application of sound scientific aid to enable them to mass-produce with quality.

One of the biggest engineering fields which has wedged itself into a rightly deserved position in this modern scheme is that of applied refrigeration. In reality, applied thermodynamic knowledge is the heart of the industry, and instead of a heating and cooling system being built into a plant, it is the practice today to build the plant around the system. Thus it affects not only the architectural design of the building, and the old accepted routine system in candy manufacture, but the whole economic situation as well. The candy business is older than the modern science of artificial refrigeration. Its development began years before the construction of the first ice machine. Its babyhood and childhood fell in a period of non-scientific application, and it received education by the study of the rule of many thumbs. Not so with refrigerating engineering, a younger infant more prodigious and fast

**Reprinted through the courtesy of "Refrigerating Engineering."*



Chocolate cooling tunnel through which coated pieces pass and give up latent and part of sensible heat—the temperature of the box is maintained at a constant value and is furnished with conditioned air through the ducts shown here

growing. Its childhood occurred at the most propitious period when man began to reason in scientifically accurate terms. It has developed into a well recognized science and is now helping its older associates with modern ideas. In the candy business it ranks at the top, and it is the purpose of this paper to disclose some of its most interesting aspects.

Artificial refrigeration was first applied to chocolate cooling, and it is this type of candy that one naturally thinks of whenever air conditioning of candy is mentioned. In olden days cooling coils of circulating brine were suspended from the ceiling with drip pans. The air was usually damp and depended upon natural air currents in the room to supply the circulation. Direct expansion ammonia coils in bunkers with forced air came next, giving greater cooling and a lower humidity. The present day systems depend upon conditioned air of controlled humidity operating counter to the movement of chocolates in a tunnel. This method has resolved itself into a very simple matter, as can be seen in what follows.

Chocolate is primarily a mixture of sugar and cocoa powder held together by a low melting fat, cocoa butter. In the case of milk or cream chocolates milk solids are also constituents. When the temperature is high enough to cause the fat to soften and melt, the whole mass is molten and can be frozen again by removal of heat. This refreezing is not so simple as it may seem, for, just as with many liquids in the range so close to the solidifying point, chocolate exhibits unusual physical changes. It must be cooled at a certain rate through a fairly definite and limited range and in the presence of comparatively dry air.

In a modern plant chocolate is melted and then chilled to within 6° to 8° F. of the solidification point. This is made possible by cold water jackets. It is then transferred to an automatic enrober which cools it too within one or two degrees of the specific melting point. It is then fed out in a liquid ribbon over centers with a temperature of 70° to 75° F. which absorb some of the sensible and part of the latent heat. The pieces of candy move along for a yard or so, on a wire belt, so that any excess chocolate may drip away into the specially constructed receiver. A transfer from the wire belt to a smooth bottomed belt then occurs, and here the chocolate is just on the verge of losing its latent heat. Before this is permitted, a stroke is made on each piece to give it an artistic appearance. When all of this is done, they begin to enter the cooling tunnel, where cold air removes the latent heat and cools each piece to a temperature of 70° to 75° F. The finished temperature is such that both center and chocolate coating are at practically the same temperature. Were this not the case, unusual thermal strains would obtain and temperature fluctuations might cause complete spoilage, breaking the protective coating by expansion of the center.

This application of refrigeration has become so refined that it almost resolves itself into a unit or single control. The chocolate in the enrober is automatically regulated, but this means more than just that. Temperature regulation means viscosity control, control of per cent coating and hence price of finished piece, final weight, and amount of chocolate cooled. The last factor in turn controls the quantity of air required to do the cooling by an automatic valve regulated by the exit of the air from the tunnel. If the tunnel is empty there is no rise in temperature and no admission of air, but when the belts start into the tunnel filled with chocolates, the automatic valves function and start to admit conditioned air. The air is supplied at a temperature of 48° to 50° F. and a relative humidity of less than 75 per cent.

Experiments were necessary to determine what the exit temperatures were for variously sized pieces. There was found to be very little difference in these temperatures, and hence it is possible to set it at one temperature. To prevent "graying" or dulling of chocolates the rate of cooling is paramount, assuming all other factors have been regulated. Then the ultimate control for the whole system is left to the control of the speed of the belt and its contents.

Even in small candy kitchens making dipped chocolates some realize the need of artificial refrigeration and are making use of household units in cooling cabinets. These bring to the small dealer sufficient temperature control for his needs.

"Thermal Design"

In the manufacture of candies in which consistency is one of the salient points the modern confectioner makes use of rapid or slow removal of heat to create the conditions for peculiar physical structure. It is common knowledge that crystal structure can be varied by subjecting the crystallizing system to abnormal thermal conditions. Let us take an interesting case in which a

piece of candy was made so that it would have certain specific properties. A type of hard candy was desired which would have the appearance of hard candy yet when eaten possess a more or less granular, crunchy structure. To some a crunchy candy with roasted nut meats is a delectable bit, and this feature is its selling point. By combining the knowledge of practice with the known chemical and physical properties of sucrose, the desired type was obtained by subjecting a super-cooled sucrose solution, in which were already dispersed tiny sugar crystals, to a very rapid cooling process. This cooling caused rapid heat transfer, tending to produce more rapid crystallization. This rapid crystallization produced many small crystals but yet maintained a sufficiently rigid structure to withstand fairly rough handling. With these scientific agencies the final piece possessed its sturdy, hard candy appearance combined with a crunchy characteristic, just as was desired.

In most candies the outcome of a batch is dependent upon the thermodynamic treatment of some particular sugar. In the days when cane sugar, corn syrup and honey were the principal sweetening substances, this was relatively simple. Today there are eight or ten different sugars which have equal possibility of taking part of the honors which have long belonged to sucrose. It will be interesting to watch the commercial aspects of these new sugars and to determine the range of new products made possible through the aid of applied refrigeration alone. New types of candies, possessing a smooth structure of millions upon millions of tiny crystals, have been produced by the same principles of rapid supersaturation and crystallization. Dextrose in combination with levulose or sucrose has shown that remarkably smooth fondants are possible. Cane sugar has also shown that it has powers for attracting moisture from the air when the relative humidity is above 77 per cent. The low solubility of lactose renders it unsuitable for practical fondant making. The ice cream industry has found this disconcerting property a detriment but has overcome its "sanding out" by use of other sugars which increase the solubility of this one. Instead of cold-treating lactose the candy maker heat-treats it, producing a decomposition into the mellow flavor of caramel which is quite distinct fromt burnt sucrose "caramel."

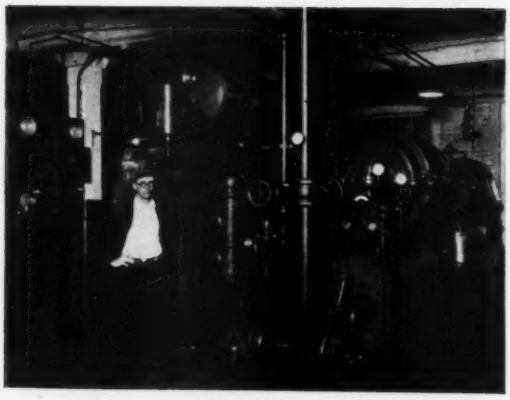
For a small but very important role applied refrigeration plays in the production of gums and certain types of jellies, let us look again to circulating brine, or simply ice water. In all plants are usually to be found what are termed dry rooms, in which candy or starch may be processed by drying. Certain types of candy, jelly beans, turkish paste, starch gum drops and others whose base is produced by treatment of corn starch with fruit acids, depend upon hot, dry air and warm dry starch to remove excess moisture from these hydrous masses. Starch, being a good medium for moisture-transfer, is used to surround the piece of candy nearly 100 per cent.

The heat (usually from 120° to 140° F.) causes the water in the candy to evaporate, and being in contact with the starch to pass slowly into that medium. The porous starch then transfers it to the air slowly, and the air serving as the secondary medium gives its moisture up to brine coils. The brine coils are so arranged that the water merely condenses and runs into a small trough, the condensate being carried out by drain pipes. This controlled desiccation prevents the formation of heavy superficial crusts and allows slow equilibrating forces to take place in the piece of candy. The moisture content of the different layers throughout the piece during the process might be compared to the varying temperatures of the water in an ice can during the process of freezing. The drying, like the freezing, takes place from the surface toward the center. Much starch is dehydrated in a dry room. Practically all centers now coated in chocolate are cast into starch, allowed to cool and harden by loss of heat and moisture to the starch. This starch in turn must be reprocessed so that it may be in proper condition for another batch, and so is removed by low-humidity, high temperature air of the dry room.

We have seen that the operation of a chocolate coating machine absolutely demands a refrigerating system of some sort. For a solid to retain a certain gloss that it may have possessed when in a liquid state is quite often desired in candy-making or finishing. Air is probably the only medium with which the goods can come in intimate contact and not cause undesirable effects. What would have been termed an efficient revolving pan ten years ago would now be highly inefficient if it were not equipped with adjustable tubes for the induction of cold conditioned air. This is particularly im-

Overhead duct system in a packing room—the automatic regulator on a post almost in the center of the picture maintains a constant temperature of 70° F. and sets the humidity at a definite value. Air is always delivered to the room from the dehumidifier at a definite wet bulb value

Laboratory corner in a modern candy plant—some of the instruments used are a photomicrographic attached to a microscope, a refractometer, and a sling psychrometer for humidity readings



Seventy-five ton refrigerating machine—this equipment includes a centrifugal compressor, indicating instruments and evaporating chamber. Overhead pipes connect the cold water tank with the dehumidifying chamber. After refrigeration and control by wet bulb temperature, air is supplied to the building for various uses

portant in the case of dragee work, in which liquid chocolate containing carbohydrates of a colloidal nature is sprayed over nuts and then quickly chilled. This seems to be the major secret of success in maintaining a liquid-like gloss in solid chocolate coated nuts.

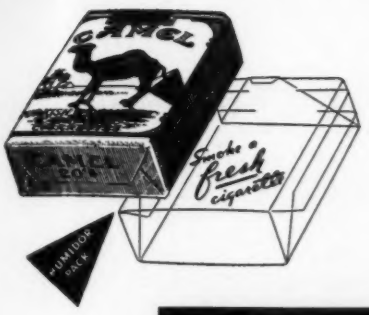
Conditioned air has various applications in many minor but important processes often overlooked. During the roasting process of almonds, filberts, peanuts or other nuts the cooking temperature is often only a few degrees below the point at which these nuts discolor due to heat. At the end of the roasting operation, unless this heat is removed, the cooking continues, and if the nuts are roasted in large quantities this heat produces burned or scorched nuts. To stop this the nuts are rapidly cooled by passing through a cooling tunnel similar to a chocolate cooling tunnel, or the air may be blown down into barrels by tubes. This is comparable to a low pressure ice can drop tube in the manufacture of ice. The only way for the air to get out when the exit is at the bottom of a full barrel of hot nuts is for it to rise up through them in intimate contact with them. Roasted nuts contain a very high percentage of nut oils. Due to their low specific heats cooling is rather economical and rapid. The rancidity of nuts and oils is quite appreciably increased by the presence of moisture at moderate temperatures. This deleterious action is maintained at a minimum by applied air conditioning.

It has long been the practice of bacteriologists to control the rate of bacterial growth by subjection to low temperature. This is true of insects. The entomologist knows that insect pests become inactive at low temperatures of 35° to 50° F. and that their destructive powers are greatly reduced. The larval and pupal stages are greatly lengthened, and fairly well controlled. The modern candy plant of today is equipped with large artificially cooled storage rooms or a group of smaller ones for the storage of large supplies of perishables. Should any nut supplies become infested with insects, the low temperatures will hold in check their growth. On inspection and grading, affected portions are then removed and destroyed. The low temperatures and medium humidity also insure safe storage of crystallized and dehydrated fruits, vegetable oils and other commodities.

One of the most disturbing problems with which the candy industry is confronted is the seasonal fluctuations of consumption and production. These demands must be met, therefore the plant must be so organized as to take care of these peaks. When they have passed, much machinery must lie idle and labor must be dispensed with even at the risk of losing capable experienced workers. In the course of the annual or seasonal cycle much inexperienced labor must be employed in anticipation of another approaching peak. The cause of much of this uneconomical system has been due to the highly perishable characteristics of most candies. Present day science, working on the hypothesis that through research and scientific application candies can be made less perishable by different constructional principles, calls upon the refrigerating engineer to assist. It has been proved that most standard candies can be made to maintain their freshness and good eating qualities for a period of six months to one year, provided temperature and humidity conditions are regulated. Chemists in the industry have shown that candies can be made six months in advance of consumption. Then with these two scientific aids the Christmas production can begin as early as May or June, or just after Easter, the Easter production just after Christmas, and by proper regulation a much steadier flow of output maintained. As production progresses the storage tonnage increases, demanding larger cool rooms of definite relative humidity and constant temperature. Thus science steps in to improve social and labor conditions among candy workers, and at the same time points the way for greater efficiency.

Candy storage has been tried at different temperatures. It has been variously shown that long period storage is carried out best at some point around 45° F., but for short periods it is the practice in several large plants to raise this to 60° or 70° F. Regardless of the temperature chosen it should be uniformly maintained, for the gloss and artistic appearance is materially lessened by

(*Continued on page* 51)



The "Humidor Pack" *and the* "Freshidor" Pack

Between February 25th and March 4th this year the F. J. Reynolds Tobacco Co. did a real job of making the American public Cellophane conscious; their contest for the best letter on the merits of "Humidor Pack" pulled over a million replies in ten days!

What of it?

There may have been many manufacturing confectioners who sensed the significance of the Camel campaign to the confectionery industry but here's one who acted on it. The job of successfully marketing a candy package sealed in Moisture-proof Cellophane should be very much easier after a million American people are sufficiently sold on the merits of the transparent wrapper to participate in the contest.

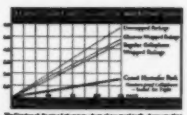
What the NEW HUMIDOR PACK *means to Camel Smokers**

COMPARE a package of Camels with any other cigarette and note the difference in the technique of packing.

Note that Camels are completely enclosed in an outer transparent cover of moisture-proof cellophane and sealed air-tight at every point.

We call this outer shell the Humidor Pack. It differs from the ordinary cellophane pack and while it is expensive this, it means a lot in terms of cigarette enjoyment.

It means, for instance, that evaporation is checked—and that Salt Lake City can now have sugared Camels as Winston-Salem.



While Camels are made of a blend of the choicest Turkish and mellowest domestic tobaccos, it is highly important, if you are to get full benefit of this quality, that these cigarettes come to you with their natural moisture content still intact.

The Humidor Pack insures that. It prevents the fine tobaccos of Camels from drying out and losing any of their delightful flavor.

Aside from cheap tobacco, two factors in a cigarette can mar the smoker's pleasure:

Fine particles of peppery dust if left in the tobacco by inefficient cleaning methods sting and irritate delicate throat membrane.

Dry tobacco, robbed of its natural moisture by scorching or by evaporation gives off a hot smoke that burns the throat with every inhalation.

We take every precaution against these factors here at Winston-Salem.

A special vacuum cleaning apparatus removes dust and now the new Humidor Pack prevents dryness.

Check the difference yourself

It is a very simple matter to check the difference between Humidor Packed Camels and other ordinary dry cigarettes.

First of all you can feel the difference as you roll the cigarettes between your fingers. Camels are full-bodied and pliable. A dry cigarette crumbles under pressure and sheds tobacco.

If you will hold a cigarette to each ear and roll them with your fingers you can actually hear the difference.

The real test of course is to smoke them. And here's where the new Humidor Pack proves a real blessing to the smoker.

As you inhale the cool, fragrant smoke from a Camel you get all the mildness and magic of the fine tobaccos of which it is blended.

But when you draw in the hot smoke from a dried cigarette see how flat and brackish it is by comparison and how harsh it is to your throat.

If you are a regular Camel smoker you have already noticed what *proper* condition of the cigarette means.

But if you haven't tried Camels in the new Humidor Pack you have a new adventure with Lady Nicotine in store.

Switch your affections for just one day, then go back to your old love tomorrow, if you can.

R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, N. C.

smoke a Fresh cigarette!

What the NEW FRESHIDOR PACK *means to Candy Eaters**

The "Freshidor Pack" obviously means to candy eaters just what the "Humidor Pack" means to Camel smokers, and that is "FRESHNESS."

Transparent wrapping material with moisture-retaining qualities applied to food products, tobaccos and other things in a way which keeps them fresh is a real service to humanity and industry. The candy industry, where Cellophane got its first momentum, is fortunate now to be able to ride in on the wave of consumer preference for the moisture-proof transparent wrapper recently stimulated by the educational campaign on the "Humidor Pack."

The consumer is now reasonably well aware that a product in which moisture retention is a quality factor, wrapped in a moisture-proof transparent material is fresh. Camel has done much of our selling for us.

**** eat a FRESH piece of candy!***

Pennsylvanians Elect John Bachman President of State Confectioners' Association

PENNSYLVANIA Confectioners have at least three good reasons for boosting: 1st: Arno Sander, new president of the N. C. A.; 2nd: The largest number of candy manufacturers in any one state; and 3rd: Wernersville! or perhaps we should say Galen Hall where the Pennsylvania Confectioners' Association held its annual convention on June 17th and 18th.

Situated on the side of one of Pennsylvania's richly forested mountains and hidden from view by cool, dense foliage until within a few hundred feet of the entrance, Galen Hall is an ideal spot for a short two or three day gathering such as that planned by the P. C. A. The informal hominess of the place enhances its value in this respect.

The attendance of few conventions held this year have surpassed or even equaled corresponding conventions of 1930. Wernersville proved no exception. The small attendance was disappointing but rather to be anticipated.

The convention was not scheduled to start until Wednesday, June 17th, but actually the executive committee held a short meeting the evening prior. At shortly after 10 a. m. with President Sander, newly elected N. C. A. president, presiding, the convention got under way. Secretary Bacon's report was read and accepted whereupon Mr. Sander took the floor and in a short informal talk, direct and stripped of non-essentials, he summarized the N. C. A. convention for the benefit of those present who had not attended. He dwelt at some length on the survey of Distribution and Selling Costs reported on by the Department of Commerce and pointed out how the high efficiency we have attained in manufacturing has been offset by high costs of distribution. The confectioner's big job of the future will be one of merchandising and distribution—not one of production.

Mr. Sander deplored last year's Tariff Act as ruining our foreign candy business. Other countries have reciprocated by putting up tariff barriers of their own, with the result that Cuba, to cite one instance, increased her tariff on candy 100 per cent.

JOHN A. BACHMAN

New Officers Chosen

The following officers and committee members were chosen for the ensuing year:

President: John A. Bachman.
1st Vice-President: Wm. E. Johnson.
2nd Vice-Pesident: Ira W. Minter.
3d Vice-President: Walter L. Hardie.
Secretary and Treasurer: Arthur D. Bacon.

Executive Committee

Harry Dangerfield, Chairman.
D. L. Clark.
D. W. Dietrich.
John L. Hein.
L. S. Hauslein.
Robert F. Keppel.
R. C. Love.
Wm. L. Murrie.
Frank B. Putt.
A. E. Sander.

He concluded his report with a brief description of the various convention addresses.

Russian Candy Discussed

After reports from the various committee chairmen, the meeting was turned over for a discussion of new business. One of the first subjects had to do with the enormous increase in Russian candy exports to this country. A resolution was finally approved and adopted urging the N. C. A. to take this matter up with the Federal Government and also recommending that individual members write their Representatives in Congress protesting Russia's dumping of candy in this country.

Cut the 72 Count

After a prolonged discussion of what seemed to be a trend toward the 72-count unit, it was agreed upon unanimously to adopt a resolution urging the N. C. A. to adopt immediately 120-count goods or higher as standard. Questioning brought out the interesting fact that neither the manufacturer, the jobber, nor the salesmen wanted this unit which actually cut down their total volume of sales—and profits. It was stated further that if the retailer were shown exactly what profit he was making on his turnover of 72-count goods, he wouldn't want them either.

In view of the railway companies' urgent cry for help from the Interstate Commerce Commission in the way of a general 15 per cent freight rate increase, this matter of freight allowance by the manufacturer found its way into the discussion and out again with nothing much being done about it. One of those present made the assertion that although he is unaware of it, the jobber who buys F. O. B. his city probably pays the freight in the decreased quality of the merchandise he receives. A standardization of freight allowances might be the ultimate compromise.

Pennsylvania Jobbers Meeting

THERE was some little misunderstanding about the afternoon jobber-manufacturer session arranged as a feature of the P. C. A. Convention. Members of the Diligence, Lehigh Valley and Anthracite Clubs were to have met and talked over their ills with the manufacturers present—at least that was the club members' understanding. The manufacturers, however, not having had a definite understanding about the arrangements decided individually that the jobbers might like to hold their own meeting without their intrusion. Now, this might have been a big, generous thought on their part despite the sneaking suspicion in the minds of the jobbers present that the manufacturers had their minds set on golf—not meetings.

There were a few manufacturers present, however, and a short meeting was held. Seventy-two-count goods were again discussed. The same feeling with respect to short count goods prevailed as at the morning session.

Cash and Carries received some praise and some condemnation. One enthusiastic booster of the C. & C. was John Wentzel, proprietor of W. W. Herr & Company in Carlisle, Pa. "Last year," said Mr. Wentzel, "a jobber from another town moved over to Carlisle and opened a Cash and Carry. I held a meeting of my men and put the question up to them whether or not we should institute a cash and carry department of our own. The boys were against it. So we went along as in the past, but—not quite so successfully. Our competitor was getting our customers one by one and where once I had regularly discounted all my bills in 10 days, I was now beginning to wonder how I'd be able to meet some of them at all. Things went from bad to worse and I'll tell you, the situation had me worried.

"Well," continued Mr. Wentzel, "one day along about vacation time, I called the boys together and told them I'd watch shop while they all took their vacations the following week. During that week I did a tall amount of figuring and thinking. The result was that when my men returned I told them we were going into the Cash and Carry business!

"Of course, this necessitated some slight alterations in our place of business. Twelve hundred dollars was spent before our C. & C. department was ready to function. The grand opening was last September. Since that time, we have gotten back most of our old customers and we are in better shape financially than ever before.

Mr. Wentzel was asked if customers ever asked to have their purchases delivered or credit extended. He replied that that was one of the things that caused him some worry when he started out. But he made up his mind that only through strict adherence to the very letter of his plan would it succeed. Only two such requests have been made of him during his ten months of operation. Polite explanations satisfied each party.

Asked how much of his business was now of the Service variety and how much Cash and Carry, he replied that 60 per cent of it came from the cash and carry department while 40 per cent was done on a service basis.

Mr. Wentzel agreed that he had been favored by ideal conditions. The fact that he already had an established business was distinctly in his favor. He felt that the man who had to start a Cash and Carry from scratch was laboring under a great handicap. He added, too, that the C. and C.'s success depends in a large measure upon the man handling the trade in the store.

Mr. Wentzel's opinion is that there is room for both the Cash and Carry Jobber and the legitimate Service Jobber provided the former steadfastly refuses to *deliver* merchandise and the latter refrains from selling and delivering at cash and carry prices.

Results of P. C. A. Golf Tournament

	Net.	Handicap.
1st Flite—		
Rainey	71	19
Jas. Hardie, Jr.	73	13
2nd Flite—		
Walter Hardie	76	18
W. E. Johnson	79	18
3rd Flite—		
F. Miller	74	25
Chester Asher	77	25
F. O'Neil	80	25
4th Flite—		
David O'Connor	72	30
Sam Williams	75	30
Al Peterson	76	30
John Hein	77	30
Eugene Sanders	80	30
Dick Wineburg	81	30

Chicago Production Club Plans Big Doings for August and September

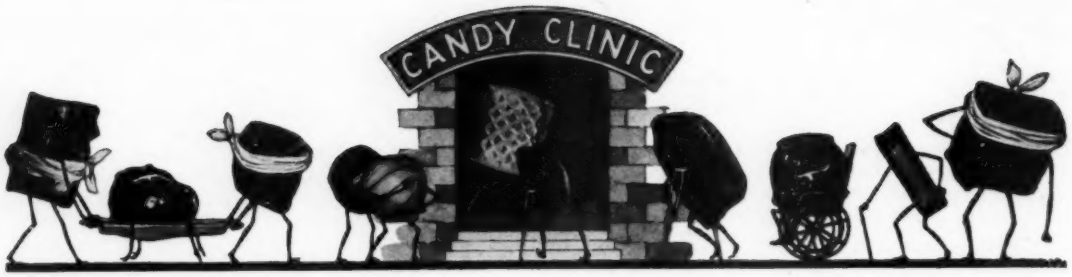
At the July meeting of the Candy Production Club held at the Midland Club on July 6th plans were set for golf tournament about the middle of August at the Nordic Country Club, Itasca, Illinois.

In September the club will stage a round-up of technical and practical candy men of the Chicago territory for their opening dinner and meeting of the fall season at which time they plan to have their first "technical talk" on some phase of candy production led by some outstanding authority. Details on this September meeting will be announced in the August issue of The MANUFACTURING CONFECTIONER.

Too Late to Classify

If you need help in your factory, an all around candy maker and enrober operator wants to hear from you. I am an American and married and don't expect a fancy salary. Address N-6537, care The Manufacturing Confectioner Publishing Co., 1132 Merchandise Mart, Chicago, Ill.

For twenty years Page and Shaw's head candy maker. Specialist of toffy, caramels, nougatines, turkish paste, jemnessy, fudges, etc. Previously eight years with F. H. Roberts. Specializing in high grade candy jar goods. Asking for a steady position anywhere. Ralph C. Sordillo, 111 Orleans St., East Boston, Mass.



The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Each month he picks up at random a number of samples of representative candies. This month it is marshmallows, fudges and caramels; next month it will be hard candies, summer candies, gums and jellies, etc. Each sample represents a bona-fide purchase in the retail markets, so that any one of these samples may be yours.

This series of frank criticisms on well-known, branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of the M. C.

Marshmallows, Fudges *and* Caramels

Code 6A 31

Chocolate Coated Marshmallows—10 Pieces, 10c

(Purchased in a cigar store in Chicago, Ill.)

Appearance of Package: Good. Packed in boat, wrapped in white transparent cellulose; printed in white and red. Contained 10 pieces of chocolate-dipped marshmallows.

Chocolate Coating: Fair.

Center of Marshmallow:
Texture: Fair.
Flavor: Good.

Remarks: The marshmallow was not right. It was gummy and a trifle tough. Marshmallow looked as though too much gelatine had been used.

Code 6B 31

Walnut Fudge Bar—1¾ Ozs., 5c

(Purchased in a cigar store in Chicago, Ill.)

Appearance of Package: Transparent cellulose wrapper, printed in white.

Vanilla Fudge:
Texture: Good.
Flavor: Good.

Remarks: This is a good eating fudge bar.

Code 6C 31

Toasted Marshmallows—6 Pieces, 5c

(Purchased in a cigar store in Chicago, Ill.)

Appearance of Package: Good. Six toasted marshmallows wrapped in transparent cellulose.

Toasted Marshmallow:
Cocoanut: Good.
Marshmallow: Good.

Remarks: This is a good package of toasted marshmallows for 5c.

Code 6D 31

Chocolate Covered Caramels—1⅜ Ozs., 5c

(Purchased in a cigar store in Chicago, Ill.)

Appearance of Package: Good. Transparent cellulose wrapper, printed in white.

Chocolate Coating: Good.

Center of Caramel:
Texture: Good.
Flavor: Good.

Remarks: This is a good 5c package of chocolate-covered caramels.

Code 6E 31

Undipped Caramels—2 Ozs., 5c

(Purchased in a cigar store in Chicago, Ill.)

Appearance of Package: Good. Moisture-proof transparent wrapper used. Package contained five caramels.

Caramels:
Plain Vanilla: Good.
Vanilla Marshmallow: Caramel good; marshmallow layer grained.
Plain Chocolate: Good.

Texture: All good.

Remarks: This package of caramels is one of the best examined.

Code 6F 31

Assorted Caramels—1 Lb., 59c

(Purchased in a drug store in Boston, Mass.)

These caramels are sold in bulk.

Caramels:
Vanilla Nut: Good.
Chocolate Nut: Fair; lacked chocolate taste.
Vanilla Marshmallow: Fair.
Chocolate Marshmallow: Fair; lacked chocolate taste.

Texture of Caramels: Good.

Colors: Good.

Remarks: These caramels were of good quality but the chocolate ones lacked a chocolate taste. At the price of 59c per pound, "bang up" caramels can be made.

Code 6G 31

Old-Fashioned Fudge—1½ Ozs., 5c

(Purchased in a cigar store in Chicago, Ill.)

Appearance of Bar: Good. Transparent cellulose wrapper, printed in white.

Chocolate Coating: Good, but too thin.

Center:
Texture: Good.
Flavor: Not strong enough.

Remarks: Suggest more chocolate be used in the center, otherwise this is a good fudge bar.

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Code 6H 31

Chocolate Coated Fudge—1¾ Ozs., 5c

(Purchased in a cigar store in Chicago, Ill.)
Appearance of Bar: Good. Transparent cellulose wrapper, printed in white.
Chocolate Coating: Good.
Center:
Texture: Very good.
Flavor: Not enough chocolate used.
Remarks: This is a very good quality fudge bar. The center lacked chocolate taste, however. Suggest more chocolate be used in the center to give it a better taste.

Code 6I 31

Caramel Suckers—5 Pieces, 5c

(Purchased in a department store in San Francisco, Calif.)
These pops are sold for 1c each.
Caramel Pops:
Color: Good.
Texture: Tough; stuck to the teeth.
Flavor: Fair.
Remarks: This is plenty of pop for the price.

Code 6J 31

Marshmallows—36 Pieces, 10c

(Purchased in a 5 and 10c store in San Francisco, Calif.)
Appearance of Package: Good. Two layers of marshmallows in white transparent cellulose.
Marshmallows:
Color: Good.
Texture: Tough.
Flavor: Good.
Remarks: This is a large package of marshmallows for 10c and it made a good appearance. Made a good size package for 10c. Suggest marshmallows be made just a bit more tender.

Code 6K 31

Marshmallows—10 Ozs., 14c

(Purchased in a department store in San Francisco, Calif.)
Red folding box, printed in white and yellow. Wrapped in wax paper. The marshmallows were colored pink.
Texture: Good.
Flavor: No flavor could be tasted.
Remarks: These marshmallows were reasonably priced and were well made. Suggest a better flavor or more flavor be used so that it can be tasted. A marshmallow without flavor is a poor eating piece of candy.

Code 6L 31

Nougat Caramel—1⅝ Ozs., 5c

(Purchased in a cigar store in Chicago, Ill.)
Appearance of Package: Good. Boat of 5 pieces of nougat caramels wrapped in white transparent cellulose.
Caramels:
Vanilla Nougat Caramel: Fair.
Chocolate Nougat Caramel: Fair.
Texture: Fair.
Remarks: These caramels consisted of too much nougat and not enough caramel. Tasted of wax.

Code 6M 31

Marshmallows—2¾ Ozs., 5c

(Purchased in a cigar store in Chicago, Ill.)
Appearance of Package: Good. 10 marshmallows in a boat, wrapped in white transparent cellulose.
Marshmallow:
Texture: Tough.
Flavor: Fair.
Remarks: These marshmallows were dry and tough; lacked flavor.

Code 6N 31

Cream Caramels—1 Lb., 39c

(Purchased in a chain drug store in Boston, Mass.)
Appearance of Package: Good for this priced goods.
Box: One layer; gray, printed in gold and brown; tied with brown ribbonzine.
Appearance of Box on Opening: Good.
Caramels:
Chocolate Marshmallow: Fair.
Plain Vanilla: Fair.
Plain Chocolate: Fair.
Vanilla Marshmallow: Fair.

Candy Clinic

Texture of All Caramels: Good.
Colors: Good.
Remarks: While these caramels were of good texture and color, they lacked flavor. The flavors of vanilla, chocolate and cream were very weak.

Code 6O 31

Marshmallows—10 Ozs., 25c

(Purchased in a drug store in Boston, Mass.)

Appearance of Package: Good. Two layers of white marshmallow; cardboard ends; wrapped in transparent cellulose.
Marshmallows:
Color: Good.
Texture: Good.
Flavor: Good.
Remarks: This is a good package of marshmallows but a trifle high priced as most packages of this kind sell at 12 oz. for 25c.

Code 6P 31

Fudge Bar—1½ Ozs., 5c

(Purchased in a drug store in Boston, Mass.)

Appearance of Bar: Good. Wrapped in transparent cellulose, printed in white.
Chocolate Coating: Good.
Center of Fudge:
Texture: Good.
Flavor: Good.
Remarks: This is a small chocolate-covered fudge bar but of very good quality. Suggest the bar be made to look larger.

Code 6Q 31

Assorted Fudges—½ Lb., 45c

(Purchased in manufacturer's retail store in San Francisco, Calif.)

Appearance of Package: Good.
Box: White, printed in black; one layer.
Appearance of Box on Opening: Good.
Fudge:
Pistachio: Fair.
Chocolate Nut: Fair; lacked chocolate taste.
Vanilla Cocoanut: Had an off taste.
Maple Nut: Poor; had a very bad taste.
Pineapple: Fair.
Milk Chocolate: Had an off taste.
Remarks: The only really edible piece of fudge in this package was the chocolate. The others were not good. The price of 90c per pound is high.

Code 6R 31

Assorted Caramels—½ Lb., 50c

(Purchased in a retail store in San Francisco, Calif.)

Appearance of Package: Good.
Box: White, one layer, printed in black and gold and tied with rose ribbonzine. An attractive package!
Appearance of Box on Opening: Good. Caramels were not wrapped, cups being used.
Caramels:
Plain Vanilla: Good.
Marshmallow Vanilla: Good.
Brazil Vanilla: Good.
Chocolate Plain Vanilla: Good.
Chocolate Brazil: Good.
Chocolate Marshmallow: Good.
Remarks: This is a good box of caramels but high priced at $1 per pound.

Code 6S 31

Marshmallow Bar—1¾ Ozs., 5c

(Purchased at a candy stand in New York City.)

Appearance of Bar: Good. Paper back foil, printed in blue and red. This is a marshmallow bar dipped with chocolate coating.
Chocolate Coating: Good.
Center Marshmallow:
Texture: Good.
Flavor: Good.
Remarks: This is a good eating marshmallow bar but it seems a trifle small.

Code 6T 31

Chocolate Coated Marshmallow—2¼ Ozs., 5c

(Purchased at a candy stand in New York City.)

Appearance of Bar: Fair. Glassine wrapper, printed in red and gold. This bar is made up of a chocolate marshmallow dipped with chocolate coating.
Chocolate Coating: Good.
Center Marshmallow:
Texture: Good.
Flavor: Good.
Remarks: This is a good eating marshmallow bar.

Code 6U 31

Chocolate Coated Marshmallow—1¼ Ozs., 5c

(Purchased at a candy stand in New York City.)

Appearance of Bar: Very good. This is a large piece of marshmallow dipped with chocolate coating. White transparent cellulose wrapper with gold seal.
Chocolate Coating: Good for this priced goods.
Center of Marshmallow:
Texture: Good.
Flavor: Good.
Remarks: This is a good marshmallow bar for 5c.

Increase in Duty on Dried Eggs

THE Tariff Commission has just announced its recommendation that the duty on dried egg albumen, dried whole egg and dried egg yolk be increased from 18 cents a pound, the rate which applied in the 1922 and 1930 tariff acts, to 27 cents per pound which is the maximum increase permitted by the so-called "Flexible Provision" of the tariff act.

It was found that the existing duty of 18 cents a pound failed to equalize the differences in cost of production in the United States and China by more than 50 per cent of the amount of the duty.

A New Candy Container

THE illustration above shows two of the new round candy boxes, molded of Durez. This latest development in confectionery packages comes in red, green, mahogany or walnut and is supplied in standard shape and size. It is claimed to be light, strong and practically unbreakable.

Their permanence and appearance make them especially desirable as utility containers inasmuch as they can be used as stocking boxes, sewing boxes, handkerchief boxes, or just general handy containers, after the contents have been consumed. These containers were molded of Durez by the Toy Division of the Standard Tank and Seat Co., Camden, N. J.

Eric Lehmann Offers a Few Tips for Improving Your

Marshmallows *and* Fudges

CANDY men can no longer question the sales appeal of the marshmallow. After having apparently fallen out of public favor, the marshmallow has staged a phenomenal comeback and is now one of the most popular confections on the market. There is little doubt that the use of transparent cellulose wrappings has brought about the increased popularity of this most delicate of candies. Today they can be purchased in very attractive visible packages ranging in price from 5c up to 50c or more, per package. These packages are inviting in appearance; the goods are well protected from dust; and the transparent wrapper helps to keep the marshmallows in excellent condition. Prior to its introduction, board boxes were used. When these were waxed, the marshmallows kept fairly well, but then, generally, the boxes were not waxed and as a result, the marshmallows often suffered spoilage. Now, many of them are packed in open trays, covered with transparent cellulose material.

While most of the marshmallows purchased this month were packed attractively, the marshmallows themselves were, in some cases, tough, lacking in flavor and occasionally off color. Unless the marshmallow is soft and has a good flavor, it is not a good confection. Too many manufacturers attempt to make marshmallows under poor conditions and without the proper equipment. With right conditions and proper equipment, good marshmallows are easy to produce. There are any number of formulas available which, when properly handled, will result in good marshmallows. I have seen one formula used for many years in a plant that makes from 1,000 to 2,000 pounds every day, without turning out a single bad batch. This selfsame formula was tried out in another plant and not even one good batch could be produced.

A few of the fundamentals in the manufacture of marshmallows are:

1. Be sure your starch is dry and warm enough.

2. Use a good gelatine and a good flavor.

3. Do not attempt to use any old beater—get yourself a good, up-to-date marshmallow beater from a reliable manufacturer.

Some of the fudge on the market today does not rate so highly. The cheapening of this product has changed it from a tender, creamy piece of candy to a tough, hard, gummy product. Obviously when scrap is used, or when we use milk and cream powders in place of fresh creams, we cannot expect a high grade product. With prices of raw materials so very low, a fine, good-eating piece of fudge can be made to retail for 50c to 60c per pound. Made correctly, they are a mighty good eating confection, and potentially a popular and profitable item.

"Milky Way" vs. "Constellation"

MARS INCORPORATED, of Chicago, has recently had a decision in its favor in a suit for unfair competition in the District court of the United States for the State of Massachusetts. The defendant was Edgar P. Lewis and Son.

In this case it is brought out that suits for unfair competition are distinct from suits for trademark infringement. Frequently relief on the former ground is granted although denied on the latter.

The test in unfair competition cases is always essentially simple. The important point to be considered is not the identity or difference of details, but whether or not the general resemblance will confuse or mislead the consumer.

It seems that defendants in such suits often attempt to place their article or wrapper, label, etc., side by side with that of the plaintiff and to point out the differences. This is not the proper way of ascertaining whether or not confusion might result. The test is not a side by side comparison in the courtroom. It is not a visual comparison, but a memory comparison.

In the words of a formal legal decision: "The test is not whether, when the goods are placed side by side, a difference can be recognized in the labels or marks; but the test is, when such goods are not placed side by side, would an ordinarily prudent purchaser be liable to purchase the one, believing that he was purchasing the other."

Ordered, Adjudged and Decreed

1. That the relief prayed for by the plaintiff in its Bill of Complaint by way of injunction, accounting, damages or otherwise by reason or on account of any rights which it alleged and claims in its said bill in and to the design, kind, quality and printing of the wrapper of, as well as in and to the size, general appearance and texture of "Milky Way" as a valid trademark, or by reason of any alleged infringement or infringements upon the part of the defendant of said rights, be and the same is hereby granted.

2. That the defendant, its representatives, agents, attorneys, prieves and employes be and they hereby are perpetually enjoined and restrained from advertising, marking, designating, shipping, displaying, manufacturing, selling and offering for sale, directly or indirectly, a bar of candy imitating or simulating in any way "Milky Way"; and the defendant be and it hereby is ordered and commanded forthwith to cease using and to remove from all places all advertisements, signs, prints, labels, cartons, cabinets, boxes, wrappers, etc., marked or used in a manner tending or likely to infringe the injunction above awarded and decreed.

3. That the defendant shall render an account and pay over to the plaintiff all profits realized or derived by the defendant from the sale of a candy bar known as "Constellation", and it shall also pay to the plaintiff all damages resulting to and suffered by the plaintiff by reason of said sales, advertisements and unfair competition upon the part of the defendant with the plaintiff, said profits and damages to be estimated from the beginning of said unfair competition and infringement on the part of the defendant; and that the matter of estimating said profits and damages be and the same hereby is referred to a special Master for determination, such special Master to be named by the Honorable Justice of this District Court.

James A. Lowell,
District Judge.

Dated: April 24, 1931.

The Confectionery Industry and Its Future

By L. H. KORTRIGHT
General Manager, Willard's Chocolates, Ltd.

THERE has been a great deal of pessimistic talk with regard to business conditions, the state of the industry and the impossibility of solving many of the problems with which we are daily confronted. One hears very little of a constructive nature, and even the optimism which has carried us along during this last year seems to be on the wane. Apropos of this attitude, I should like to tell you another little story, one which has a moral.

It's 50-50 You'll Have Nothing to Worry About

When the United States entered the War and decided to employ the draft system for enrolling its army, two colored boys in a small town in one of the Southern States were discussing their chances under this draft system. One of these young men, the bolder of the two, was telling his companion that no matter what happened there were always two chances. This he explained as follows: (I shall omit the characteristic dialect).

He said, either you will be drafted or you won't be drafted. If you are not drafted you have nothing to worry about.

If you are drafted you will have two chances. Either you go to France or you stay at home as unfit. If you stay at home you have got nothing to worry about.

If you go to France you have still got two chances. Either you go to the trenches or you stay in Paris. If you stay in Paris you have nothing to worry about.

If you go to the trenches you have still got two chances. Either you go over the top or you stay in the trenches. If you stay in the trenches you have nothing to worry about.

If you go over the top you have still got two chances. Either you meet the Germans or you don't meet the Germans. If you don't meet the Germans you have got nothing to worry about.

If you do meet the Germans you have still got two chances. Either you get shot or you don't get shot. If you don't get shot you have got nothing to worry about.

L. H. KORTRIGHT

If you do get shot you have still got two chances. Either you get well or you may die. If you get well you have got nothing to worry about.

If you die you have still got two chances.

Is the Confectionery Industry going to Heaven or Hell? As far as I can see it certainly is not going to Hell.

A Natural Part of the Business Cycle

The way in which the present business depression is generally viewed and spoken about, accounts, no doubt, for the fact that a great many people think the industry is going to Hell. There is another, and I think a much sounder, way of looking at a depression such as this.

A depression, under our existing social system, is a natural and regular part of the business cycle. There are great benefits to be derived from a depression. It provides a house-cleaning period, during which we are forced to seek more economical methods of production. We search assiduously for ways of eliminating or reducing waste. A depression necessitates greater personal effort on the part of each of us. Imagination and resourcefulness are stimulated to a degree which is not found during periods of prosperity. A depression acts like a tonic purging the system, leaving the body and mind in an improved condition.

When prosperity returns, as it inevitably does, and will in this instance, every concern that now takes this view of a depression will come out better prepared, better equipped, more efficient, and in every way more healthy.

During the years of plenty which follow a depression we may fall back into our lazier, more slipshod ways, but each depression leaves us with certain lasting improvements and gains.

Basic Soundness of the Industry

An ancient historian in a preface to his history of Rome says: "A study of history is valuable for two things—first, that we may *observe the mistakes* of the past and so learn what to avoid; second, that we may *see what has been well done* in the past and so learn what is the wise course to follow.

In a brief review of the industry I shall now touch upon some of the problems of the past and present and suggest ways whereby the industry as a whole, and the individual members of it, may in co-operation work together for their mutual advancement and betterment.

I shall commence by saying a few words on the basic soundness of the industry in which we are engaged. I do not mean "soundness" from the financial point of view, but rather from the angle of inherent stability, security, necessity, importance and inevitable growth and expansion.

The first advantage we possess is that *we belong to the food products group of industries, the most basic of all.*

No matter what business conditions prevail the human animal has to have food and he requires this in practically unvarying amounts.

We are thus free from the abnormal fluctuations which afflict other industries. The effect of belonging to this group of industries ensures our sailing on a fairly even keel no matter how the winds blow.

In common with other members of the food products group *our market is the widest possible. Every man, woman and child buys, or is a prospect for our products.* This ad-

vantage can be claimed by very few industries outside of the food products group. There is no saturation point in the ordinary sense of the word. *Our market is always ready for more.*

The fact of *the low consumer price* for our products, ranging as it does from one cent to one dollar, *is another advantage which we possess.* In times of stress there may be fewer nickels and quarters but there is no doubt whatsoever that *the five cents for the kid for candy is one of the last curtailments made.* Times may be too bad to make the expenditure necessary for a house, a radio, a new car, entailing as these do an outlay of considerable magnitude, but food products and candy are never too expensive, even in times of greatest stress. *The low consumer price and the repeat sale feature of our products are factors which ensure stability.*

New developments, such as the automobile, the movie, the radio and others, have had devastating effects on certain industries. This is not the case with us. These modern inventions have helped us rather than otherwise, and the ways in which they do help us are so obvious that I need not mention them.

I do not intend to bore you today with an enumeration of statistics. These are available to you and you no doubt know a great deal more about them than I do. I do wish, however, just to point out the rank and size of the industry which we represent.

Of the 40 leading industries in Canada, ours ranks eighteenth in volume of products sold and in capital investment. It ranks fifteenth in the amount paid in salaries and wages. It ranks thirteenth in the number of employees engaged. In giving these figures I include the Biscuit, Confectionery and Chocolate Industries of Canada.

The importance of this industry may possibly be impressed upon you more if I point out that it is larger than the furniture industry, agricultural implements, boots and shoes, clothing, machinery, all of which are recognized as enormous industrial developments.

I mention these few facts with regard to the nature of the industry, its market, its size and rank, to impress upon you, as I said at the start, *not only the sea-worthiness of the craft in which we are embarked, but the importance of the mission in which we are engaged.*

Problems of Other Industries

I am about to mention some of the problems with which we have to deal, but before doing so, in order to give you a proper perspective in which to view our own difficulties and to show that we have not by any manner of means a monopoly of the problems of industry as some of us seem to think, I shall mention briefly a few of the difficulties which confront other industries.

The steel industry is having to face a falling off in business which would wipe us off the face of the earth.

The newsprint industry has problems of which we, as an industry, have no conception. They are confronted with a sales decline of over 30 per cent, over capitalization, over capacity of mills, a combination of major problems which seriously jeopardizes the entire industry.

The automobile industry declined by more than 40 per cent in 1930. They are largely dependent upon export business, and the imposition of heavier duties by importing countries has been a serious blow. How would you like to have to solve their problem of finding a market for the "used car?"

Agriculture, with its depressed grain prices, is a story with which we are only too familiar.

Would you prefer to be in the railroad business and be confronted with some of their problems? Buses making inroads on their passenger traffic; transportation companies attacking their freight business; the prospects of waterways which will deal a body blow at their grain carrying trade; the certainty that in the none too distant future the aeroplane and dirigible will be competing successfully for their mail and passenger traffic.

Here, indeed, are problems which make our own little difficulties small by comparison and the reason that I mention them today, as I said before, is to give you *a proper perspective when viewing our own.*

Problems of Our Own Industry

THE problems with which we are confronted may be classified in various ways. I propose, however, to discuss them briefly under the following headings:

(a) Those common to all industries.
(b) Those affecting the consumer.
(c) Manufacturing problems.
(d) Distribution problems.

In the time at my disposal I can deal with these but briefly. As I enumerate them I shall attempt to offer what appear to me obvious and practical suggestions for their control or elimination.

I may interject, at this point, a statement to the effect that, as many of you know, I have been associated with this industry for a relatively short time. I do not pretend to know all about it. Most of you are undoubtedly far better informed on these matters than I am. On the other hand, I have not had time to become biased by too near a vision and too long an association with matters concerning the industry. The views of an outsider, if you care to consider me as such, are not always to be despised.

The first group of problems which I mentioned are those which are common to all industries. They include the extraordinary shape of the country in which we have to operate, the populated part of which represents a ribbon 3,000 miles long by not more than 200 miles in depth.

The difficulties of distribution in a terrain of this nature are acknowledged. We have here a problem which is found in no other country in the world. Our sparse population, 2½ persons per square mile of territory, or even considering the strip of territory to which I referred, 16½ persons per square mile, means long jumps and many miles of transportation. In Great Britain and the United States there are respectively 468 and 40 persons per square mile in a much more compact area. Our population per mile of steam railway is 250. In England it is 2,000 and in the United States 500.

We are confronted also with the difficulties of a dual language, which fact does not make our operations any simpler.

These difficulties, however, must be suffered in common with all industries. They are inherent to the country in which we live, and which

country offers us many offsetting advantages.

To meet these problems in the best manner, the way in which they are being handled by other manufacturing and distributing concerns within and without the industry should be carefully studied and the most successful examples followed. No further thought need be given to them.

Consumer Relations

The next group of problems to which we come are those which affect the consumer. These can all be grouped under a heading of "Misconceptions concerning candy."

Candy is fattening. It is bad for the teeth. It causes diabetes and other dread diseases. It is a luxury.

This propaganda has been spread broadcast and is being spread. It is pernicious, largely untruthful, conceived in ignorance of the true facts.

And what are we doing about it? As an Association nothing. What have we done about it? As an Association nothing. What are we going to do about it? Probably nothing. Unless some speaker, more fluent than I, can impress you with the absolute necessity of combating propaganda of this nature. Or unless it grows in magnitude to such an extent that in self defense we have to take some concerted action.

What should we do about it? There seems to be no possible excuse for this Association delaying any longer in preparing and launching a well conceived campaign of co-operative educational advertising to meet these insidious attacks.

Last year at the annual meeting of this Association we listened to a very interesting and able address on co-operative advertising. I think that we all felt that it was a splendid thing, but this spirit of lethargy, which, if you will forgive my saying so, is one of the outstanding characteristics of our Association, overcame any temporary enthusiasm which we felt after listening to this address.

Don't you realize, gentlemen, that co-operative advertising is the one sure way to increase per capita consumption of our product? Candy is not injurious. Why not tell the world? Candy is no more a luxury than canned peaches, strawberries, jam and countless other articles which carry no stigma.

By co-operative advertising we can not only increase our per capita sale by removing misconceptions, but we can secure our fair share of the business which flows on holiday and special occasions. Have not our good friends, the florists (and many others) demonstrated this clearly enough?

Manufacturing Problems

The next group of problems with which we are faced are manufacturing problems. These I am subdividing into:

(1) Efficiency.
(2) Research.
(3) Costs.

Dealing with efficiency. It is my considered judgment that as an industry we need to seek very greatly increased manufacturing efficiency. In comparison with other industries of which I have a certain knowledge we are backward. I have recently made several visits to the United States and have been through most of the larger confectionery plants in that country. The impressions which I bring away are those of high efficiency, advanced mechanization and well developed plans for the welfare of employees.

Wasteful methods must be abolished. Economies must be instituted. Waste of time and material should be watched most carefully and our margin of gross profit will be increased.

In a brief resumé of this nature I am forced to generalize on this matter of manufacturing efficiency. It is not possible to be as specific as I should like. *You say the industry in the United States is having its troubles. So it is. I may tell you, however, gentlemen, that it is not the well operated, efficient plant that finds itself in difficulty today in the United States.*

Another of the problems which I am grouping under the head of "Manufacturing" is the question of research.

Research

I mention this because I am convinced that it not only is a means of eliminating many of our manufacturing problems, but is the one and only certain way of bringing about that improvement in the quality of our products which will assist us in our competition with products of other industries. I do wish, gentlemen, that you could be brought to a realization of the fact that our most serious competition lies with the products of other industries. It is not between your goods and mine.

There are certain companies in this industry that maintain well regulated research laboratories. Every one of these companies, I warrant, would admit that they consider their research departments to be invaluable and indispensable.

In my own company I may tell you that we have recently established a research laboratory, and were fortunate in securing the services of an exceptionally able research chemist to take charge. Already it is difficult for us to see how we could proceed without the guidance which emanates from the laboratory. It is probably the most paying investment we have made.

In the United States plants that I visited, every single one maintains a research laboratory, and in each instance the benefits resulting from laboratory control were obvious.

I suggest that those of us who have not already done so make up our minds to investigate the benefits that accrue from embracing science. Those that are large enough to maintain a laboratory for their exclusive use should do so. Those that are not, should make full use of consulting chemists as a certain way in which to maintain and improve the quality of our products.

While in New York I called upon Dr. Stroud Jordan of the Applied Sugar Laboratories and he told me to what a great extent confectionery manufacturers in the States were turning towards research.

Perhaps many of you are skeptical as to what can be accomplished by research. May I remind you that *as an industry we are engaged in causing organic physio-chemical reactions from morning until night.* I have great doubts that many of us have even the merest knowledge of chemistry. I find that as an industry we seem to be working to an unbelievable extent in these modern times on grandmother's receipts and have really no knowledge and understanding of exactly what reactions take place in our batches. Lacking this knowledge and understanding,

gentlemen, we do not know the reason when things go wrong, and can take no intelligent remedial steps to avoid unnecessary waste.

The marvels that have been performed by research for the woolen and textile industry, for steel companies, for electrical concerns, for the paint industry, for pulp and paper, for the radio (which is itself a product of research) cannot be known to this Association or it would in the past have taken some very definite steps to secure the advantages of research to itself.

In our own food products group all the major industries have followed science. The meat packing industry, the canners, the fruit growers, the fish packers, have built up and developed their industries during the last ten years on the solid rock of scientific knowledge.

I will conclude the question of research by suggesting that those members who do not conduct laboratories meet for the purpose of discussing how, through the Association, and in co-operation with the Association executive, a Canadian research laboratory for the confectionery industry can be started without loss of time.

In spite of the fact that we maintain our own laboratory, my company would be glad to share the expense of an Association Laboratory for the good of the industry as a whole.

To any of you that are interested I extend an invitation to visit our laboratory while in Toronto. Dr. Battye will be very glad to show you what we are doing, and you may be inspired to take this forward step yourselves.

Costs

The last of our manufacturing problems that I am dealing with today is that of a true knowledge of costs. Lack of this knowledge leads to price cutting.

Price cutting is bred from "ignorance" and "desperation." Price cutting is the greatest evil which besets the confectionery industry in the United States today. Our glimpse back into history for the purpose of seeing what should be avoided in the future surely indicates to us that as an Association we must take steps to avoid the price cutting evil which is so seriously injuring the industry across the Border.

The way to attack this problem is to make sure that we have adequate cost systems. I have no doubt that every person here feels satisfied that he has an adequate cost system, and no doubt many of us have. I am equally certain that the majority of cost systems in this industry are not accurate. In any event, they are not uniform and there is no doubt in my mind that right before me there are those of us who distribute overhead on direct labor, others on labor and materials, others on a basis of floor space, others on a poundage basis, and the distribution of overhead, gentlemen, is merely one factor in an adequate and correct cost system.

To avoid any possibility of a price cutting war between manufacturers such as is being waged in the United States, I would suggest that this Association discuss the advisability of engaging the services of an accountant to advise on a uniform cost system throughout the industry.

A uniform cost system adopted by the master printers of Canada and the United States, through their Association, brought that industry out of a state of chaos, where price cutting was extreme, and put it on an absolutely uniform and sound basis. The Biscuit & Cracker Manufacturers' Association of the United States is another example of what can be accomplished by a uniform cost system.

Knowing the dangers and evils of price cutting, this Association would be negligent in the extreme if this matter is not thoroughly investigated and some definite steps taken.

Distribution Problems

We now come to our distribution problems. I shall, however, only mention one problem under this heading and that is how best to co-operate with jobber and retailer.

The jobber and retailer form a necessary arm of our industry and the fullest co-operation should be extended to them at all times. Whenever an infant jobber association raises its head, provided its objectives are legitimate, it should receive the hearty support and every possible assistance from this Association.

Our relations with the jobber and retailer should receive our closest attention. There is room here for another branch of educational advertising. Retailers should be instructed and assisted in every possible way in the care of our products.

The Laura Second Company and Hunt's Limited, are shining examples of co-operation with their retail outlets. Their problems are simplified by the control they exercise, but we also can achieve a certain measure of their success by assisting and instructing our dealers through some form of co-operative advertising.

Again I suggest that a carefully selected sub-committee should deal with this phase of the Association's business, and I further suggest that the report made by them be acted upon and not discarded or neglected.

An address delivered at the annual convention of the Confectionery, Biscuit and Chocolate Industries of Canada, held in Toronto.—Editor.

FORMULAE—A 14-page folder just issued by the Glyco Products Co., Inc., Bush Terminal, Brooklyn, giving formulae for flavors, syrups, emulsions, jellies, jams, meringue and marshmallow. Copies free on request.

INDUSTRIAL ACCIDENTS STATISTICS—The new 1931 addition is now available. It comprises 40 pages and presents the most complete national report issued on accident injuries in 28 American industries for 1930 and previous years. Issued by the National Safety Council, 20 North Wacker Drive, Chicago, Illinois.

CERELOSE HANDBOOK REFERENCE SECTION—A 38-page general reference section to the Cerelose Handbook has been prepared by the Corn Products Refining Company, 17 Battery Place, New York City. This is the first work of its kind on refined corn sugar (dextrose). The reference edition is in convenient loose-leaf form and is replete with illustrations, charts and informative data which should prove of practical value to chemists and production men contemplating the use of dextrose in candies, syrups, jams, jellies, etc.

Uniform Cost Accounting Promotes Industrial Stability

From an address given at the N. C. A. Convention by A. H. Weideman of FAM Systems

PROBABLY no department of accounting has been so disturbed by theories that that were not only inharmonious, but frequently conflicting, as has the determination of production costs, and no phase of accounting has embraced the employment of so many different methods of accomplishing one result. Cost accounting has proceeded on plans ranging from general estimates to the use of forms and methods that revealed each element of cost in every process, for each part of every article produced. From the beginning of cost accounting there has been put forth by those engaged in that work a continuing effort to simplify the required proceeding to the end that dependable information might be developed without the use of an unreasonable number of employees.

One of the reasons why so many methods are used in the determination of production costs is because manufacturers fail to realize that regardless of the ultimate form of the finished product, every manufacturer is engaged in the production of one thing: that is, "plant performance"—the conversion of raw materials into finished products through the use of human and machine facilities at his command.

This statement is well illustrated within your own industry. Let us assume that if it were possible, we were set down in a manufacturing community with which we were not familiar we would see large buildings which we would know instinctively housed manufacturing operations. But, if there were no names with which we were familiar on these buildings and no signs to indicate what product was being made, we would be at a loss to know just what type of product was being manufactured. Let us enter one of these buildings. We will approach an information desk and ascertain that within the building is housed an organization consisting of a president, one or more vice-presidents, other officers and directors, a purchasing department, accounting department, sales department and other clerical groups. Still we will have no information to indicate what final form the manufactured product will assume.

We will go out to the receiving room and watch the receipt of raw materials. We will see sugar, glucose, chocolate, nuts, starch, etc., coming in and still there will be no indication what the product might be. We will not be able to tell whether penny, package, bar or bulk candies are to be made, or whether the product is candy. It might well be biscuits and crackers or some other form of commodity.

Going to the cookers, we will see these ingredients or raw materials being mixed and prepared and might even then be unable to tell the kind or type of finished product. It would be possible to view several of the preliminary operations and might even be necessary in some instances to approach the packing operations before the ultimate product could be definitely determined.

The operations housed in that building may have been devoted to any one or all of the major types of confections, but regardless of what kind of candy is being produced, it is true that the people and the machinery within that building will be engaged in converting raw materials into some kind of finished product, engaged in the production of the one and only product of all manufacturers—"Plant performance."

Plant Performance

Now, let us consider "plant performance." Does it consist only of the actual, tangible, physical effort necessary to the manufacture of the product, or is it far more comprehensive in scope?

A casual visitor to an industrial plant receives impressions that form a picture somewhat different from the retrospect of an industrial investigator.

The casual visitor sees in his picture the working of the plant in its entirety, buildings, equipment, laborers, clerks, and material in various operation stages. His picture is not in detail. Probably, no one operation or instrument stands out in prominence. His picture might be compared to a photograph of Michigan avenue taken on a rainy day.

In the retrospect of an industrial investigator, minute details stand out, and in prominence are the apparent inefficiencies and the more expensive parts of the general performance; for example, Labor.

Performance should be considered as an energy, effort, force, or an application necessary in transforming raw materials into finished commodities. It should be considered as an invisible force embracing all of the instruments necessary to operations, including buildings, equipment, labor, power, clerical help, supplies and other appurtenances.

Unit of Measurement for Invisible Forces

Invisible forces are not measurable by lineal, liquid or weight standards; nevertheless, definite, accurate means of measuring forces, energies, and even resistances, have been provided with the creation of the Dyne, the Ohm, the Watt and the Horsepower, each of these units of measure having as components, an instrument, a specified time and a task. For example, the Dyne, a unit for measuring force, is the force necessary to move the weight of one gram the distance of one centimeter in one second. In this case the instrument is the necessary force, the time one second, and the task moving one gram one centimeter. Likewise with one horsepower, the power required to lift a weight of 33,000 pounds avoirdupois one foot high per minute. Here again, the instrument is the necessary force, the time one minute and the task raising 33,000 pounds one foot.

Considering the proven practicability of these various units for

measuring unseen forces, is it not reasonable that a unit should have been originated for measuring plant performance.

A Unit of Measurement for Plant Performance

In 1909, Mr. F. A. Magee originated a unit for this purpose. This unit was used for several years in various industries without having attached to it any particular name, such as Dyne, Watt or Ohm, until in 1917, the Cost Society of the Association of Biscuit & Cracker Manufacturers, who had adopted this unit as a basis for measuring plant performance in their industry, decided that inasmuch as a unit was one of anything, this particular unit, because of its proven practicability, should have some distinctive title whereby it might be recognized in its own individuality. The name selected was "Fam," coined from the initials of its originator, Mr. Frank A. Magee.

In devising this unit, Mr. Magee first considered as an instrument, one operator, the time as one hour and selected as his third element, the only thing that could be used, a standard task. Later, realizing that the operator was not a complete instrument, that appurtenances such as machinery, tools, supplies, buildings, etc., had each a necessary part in plant performance, the instrument was modified and is now described as a "stated producing unit."

A Fam, therefore, may be defined as "A theoretical measure of performance, it being the performance necessary for a producing unit, during a period of one hour, to accomplish a standard task."

Beginning with the January, 1931, issue of the Manufacturing Confectioner, a series of articles appeared briefly describing the Fam and its use. These articles set forth the simplicity and minimum amount of clerical help required in the maintenance of the system.

Desired Results with a Single Production Record

Suffice to say that *not only does the Fam provide a definite basis for the measurement of plant performance, but a single production record is all that is necessary for a basis for determination of production costs, definite daily executive control and wage incentive and piecework plans.*

I want to stress that point, gentlemen, the *same* production or pay roll record that is used for the payment of wages, either bonus or piecework, is used for cost finding and definite daily executive control over operations. The use of the Fam as a measure of performance and its place in cost finding has been described in the issues of THE MANUFACTURING CONFECTIONER and I shall not take the time this morning to discuss the mechanics of the system.

Several weeks ago I had the pleasure of talking with your president, Mr. Hutchins, at his plant in Fond du Lac, Wisconsin. During the course of our conversation Mr. Hutchins admitted that if all confectioners computed their costs in a uniform manner, it would be a splendid thing for the industry. But, he qualified his expression of approval by saying that the ideal condition would not be reached within the industry until production methods were standardized.

About fifteen years ago in the Biscuit and Cracker Industry, 48 barrels of flour per day through one oven was considered a good day's work. Today, I am given to understand, 72 barrels per day per oven is not uncommon. It is claimed by many leaders in that industry that this increased production has been brought about by standardization of equipment and methods through comparisons between plants. And, I believe, Mr. Hutchins will find the solution to his problems in the experience of the cracker manufacturer.

N. C. A. Cost Committee Approve Fam System Gearage

During the latter part of last summer Mr. Magee met with your Cost Committee, consisting of Messrs. Hughes, Shotwell and Rhoorda, and was told that for many years the members of the Confectionery Industry had been endeavoring to eliminate unfair price competition and stabilize operating and sales conditions within the industry; that intensive study and research had revealed that these unsatisfactory and unstable conditions were due almost wholly to the many different methods of computing production costs now in use by various concerns engaged in the manufacture of confections.

Our experience with other production problems in many various lines of industry had proved that uniformity in determination of production costs, was perhaps, the greatest factor in the minimizing of unfair price competition. In the biscuit and cracker industry, which I have mentioned, the adoption of uniform cost accounting has been given credit, not only for elimination of unwholesome competition but also for increased production afforded through comparisons between competitive organizations and the attainment by the industry as a whole, of a financial position that has been retained despite the so-called period of depression through which we have been passing.

School for Candy Costing Planned

Knowing that business conditions, and particularly the conditions which had existed for some time in your industry, necessitated prompt and economical action we proposed to your Cost Committee that we be permitted to conduct a school for representatives of manufacturing confectioners, which would enable us, through group instruction, to introduce a uniform system of cost accounting at a price which would not be prohibitive to any one. The school plan would, also, have proved the quickest means of insuring the immediate use of uniform methods so that the benefits derived therefrom could become realized without delay. This plan met with the approval of your committee and we immediately began a direct-by-mail campaign, together with personal calls in our efforts to convince your membership of the wisdom of such a plan and the benefits to be derived therefrom.

The school was originally proposed for the fall of 1930 but unfortunately we found that a time had been selected when the majority of the manufacturers were entering into the production of their Christmas lines and could not spare the services of any member of their personnel for the necessary three weeks' period. We were asked to postpone the school until such time when it would be convenient and we agreed, setting the date of the new school for May 28 of this year. Shortly after the first of the year we began an intensive campaign embracing a series of articles in the "Manufacturing Confectioner," trade journal advertising, direct-by-mail solicitation and personal calls

(*Continued on page* 51)

The Adviewer

Casual comments on current candy advertising

THE SATURDAY EVENING POST

Even after you crack a

PEANUT SHELL

you still are in the dark!

Cellophane beats Nature—

you SEE *what's inside*

THE peanut shell is one of Nature's best jobs—a handy little package. Pop it with your thumb—and you're still in the dark! Mr. Peanut has a suit of red underwear for extra protection.

Like the peanut's double-wrap, Du Pont Cellophane keeps foods clean and untouched. Keeps them fresh and full of the original flavor—and crisp, too, where crispness is what you want. But never in the dark—you SEE everything that's wrapped in Cellophane.

Cellophane is purest cellulose—the same material Nature uses for the peanut shell. It keeps all sorts of products safe from dirt, dust, and other people's hands. It safeguards your right to inspect what you buy. No better guarantee than a Cellophane wrap, of the maker's confidence in his product. You or it—

SEALED AND PROTECTED BY DU PONT CELLOPHANE

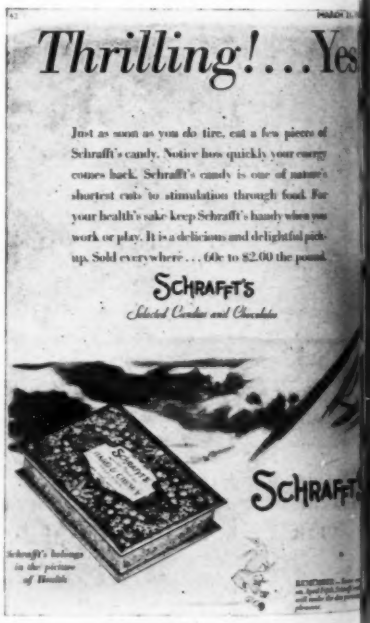
DU PONT CELLOPHANE

YOU'RE right. Strictly speaking this is not a candy advertisement. But when has anyone done a better job for this whole industry? Lots and lots of people saw this wonderfully attractive color photograph showing six varieties of confectionery, and it's a reasonably safe bet that candy sales, if one could only know the facts, responded and without delay.

Because the reproduction here cannot show the colors used, let it be known that the advertisement shows salted peanuts, cream patties, nut fudge, gum or jelly drops, stick candy and marshmallows in colors that are FAITHFUL. The background is in a rich, contrasty blue. In the illustration of the marshmallows there is just a little lack of definition, but this is not in any way a serious discrepancy.

The Adviewer hopes that many of the millions who saw this page advertisement read the copy and got the Cellophane story. The Du Pont folks deserve a break. Certainly they have given the candy industry one.

P. S. Doesn't this advertisement suggest to the executives of the National Confectioners' Association and to other organizations in the industry that they make an effort to persuade advertisers among the allied industries to show candy accurately and prominently in their advertisements that reach the general public?



IN the last five or six months Schrafft's advertisements have several times ranked among the really notable jobs produced by those who create salesmanship in print. Here the style theme in candy is abandoned for the quick-energy idea. To the writer the change is not particularly successful. A bold, forceful advertisement this, but not as convincing as a selling aid as some of its predecessors. LAYOUT: strong and posterlike. Personally, the writer would have preferred the illustration on the left hand page (the advertisement is a spread) and the written copy on the right. That arrangement would focus attention on the copy without in any way shoving the illustration off into the background. ILLUSTRATION: adequate but indistinguished. As a rocking-chair sailor the writer (correct me, if I'm wrong) wonders as to accuracy of one or two nautical details here. TYPOGRAPHY: powerful and incisive. Perhaps Bodoni has just a little too hard a face to be used here, but no . . . the package shown is one of hard centers. COPY: satisfactory.

Why did Srhrafft's schedule an advertisement featuring a pair of young swimmers to appear in the middle of March? Florida's and California's seasons have tapered off then, and waters elsewhere are too much for everyone but seals and polar bears. Somehow this advertisement strikes the Adviewer as being just a tone or two off pitch.

HERE is an interesting piece of advertising copy. Interesting because into it has gone more than the usual amount of advertising agency production skill. What with the short paragraph of copy, the two illustrations, the display line and the addresses of the six Longchamps restaurants in reverse, it's obviously a job that called for some ingenuity in arrangement. The illustration is of the type now enjoying something of a vogue among advertisers seeking to give an impression of ultra-smartness . . . a type distasteful to the Adviewer. To him it appears that some other symbol of this candy's haut-monde position in the social register might be devised without overtaxing anyone's creative abilities. The brief paragraph of copy is not particularly strong either in rhetoric or grammar.

An Easter Greeting

IN HARMONY WITH SPRING

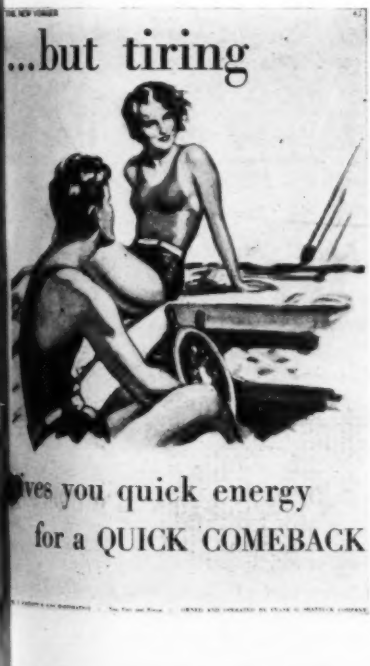
New fashions! New flavors! Symbolic of spring and new life is Easter. Essential then, that the greeting for this day be redolent of spring, rivaling in delicate hues and elusive fragrance, Easter's own flower. A gift of Almond Roca is in perfect taste. In its rare and piquant qualities, it typifies the exuberance, the charm of spring. Too unique to classify—an original creation—its only relationship to conventional candy being that it's candy! A triumph of taste in a vacuum sealed container that's a triumph of art! The package price of one dollar and a half will be returned if the purchaser or recipient knows another confection its equal. If your favorite dealer does not carry Almond Roca, kindly include his name when ordering direct, so that we may arrange to take care of your future requirements through him. • • •

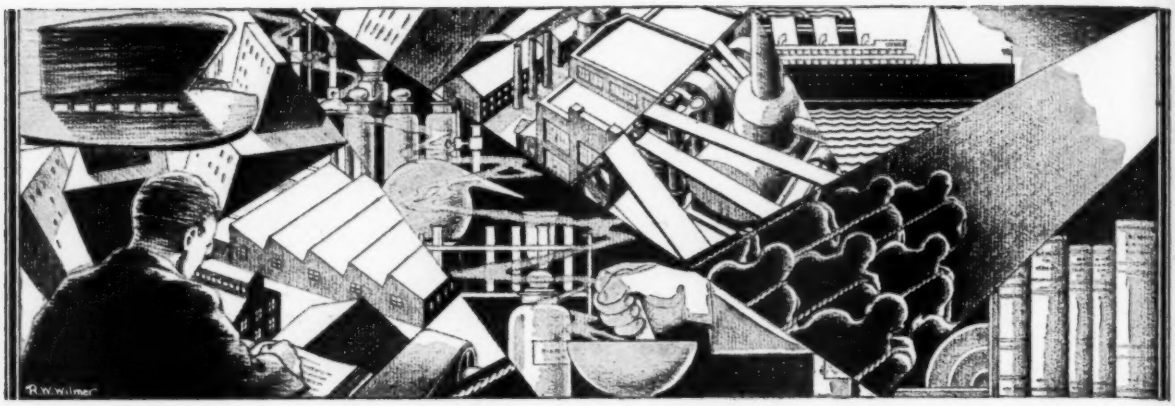
Brown & Haley, *Confectioners to the Elect*, Tacoma, Washington.

Almond Roca

America's Finest Confection

AT heart most manufacturing confectioners want to advertise their products: (1) to their primary markets of jobbers and other wholesale distributors and (2) to the ultimate consumer. Many are dissuaded, feeling that there is little use of their trying to compete with the big fellows who use full pages and buy color. The accompanying advertisement for Almond Roca is a fairly good answer to the manufacturer who feels like this. It shows how limited space can be used to good effect. Note the gulf of white space between the illustration and the headline. See how it makes the advertisement stand out. Suppose it were not there. Suppose the space were devoted to type. The advertisement would lose much of the identity it possesses now and find itself practically buried in the large national weekly where it appeared. There is too much copy here for the space allowed. It could be shortened without sacrificing anything essential, and the shortening would make possible the use of a type large enough to make it easier on the eyes.





Monthly Digest of CURRENT TECHNICAL LITERATURE

Chemistry in Industry

Edited by H. E. Howe, Published by the Chemical Foundation (2 vols.)

THE amazing rapidity of the industrial development of our nation is the direct result of scientific research in chemistry and physics. A book such as has been recently published by the Chemical Foundation giving a broad outline of the development of industries by chemical discovery and the increased efficiency made possible by chemical control in such industries as the candy industry, makes absorbing reading for industrially-minded.

Although a great many phases of industry are touched upon each chapter is written by an expert on the subject so that the book forms a series of introductions into industrial chemistry suited for the layman. A chapter by Stroud Jordan takes up the application of chemistry to the confectionery industry and discusses the common problems of candy manufacture.

A chapter on Flavors and Perfumes outlines the gradual replacement of natural flavors by artificial ones and the improved methods of obtaining natural essences.

If a book of this character can make us realize the value of chemical research and give us the perspective and vision to use the improved methods that research has put within our reach it will have been well worth the time devoted to its reading.

Marzipan and Persipan Candies

By J. Grossfeld. Deutsches Nahrungsmittel Rundschau, 1930, pages 137-141, 147-149, 155-157, 163-165, 171-172.

THE normal composition of marzipan, as required by German food standards and calculated from chemical analyses, is as follows for the constituents mentioned: Moisture, 17%, fat 34.3%, ash 1.65%, sugar (sucrose) 44.6%, the last three figures being based on air-dry marzipan containing 1% of moisture. The composition of marzipan candies is approximately as follows for the constituents mentioned: Moisture 9.1%, fat 15.7%, Ash 0.76%, sugar (sucrose) 71.0%, glucose (potato starch glucose) 3.9%, glucose solids 3.2%, the last five figures being based on air-dry marzipan candy containing 1% moisture.

The composition of "persipan" candy (peach or apricot kernels substituted for almonds) is as follows for the constituents mentioned: Moisture 8.9%, fat 11.4%, sugar (sucrose) 76%, glucose (potato starch glucose) 5.4%, glucose solids 4.4%, the last four figures being based on air-dry persipan. Benzoate of soda is sometimes added as a preservative and other fats are sometimes substituted for part of the cocoa, butter in the chocolate coating. Methods for detecting these additions are described.

Utilization of Prunes (Including Use in Candy)

By E. M. Mrak. The Products Journal, Vol. 10, p. 216.

A NEW product, prune pulp or sieved prunes, has been developed for the purpose of disposing of small and off grade, but wholesome prunes. The product is beyond the experimental stage and is being produced and distributed by several factories. In addition to other uses the prune pulp is now being used in certain kinds of candy. The Fruit Products Laboratory of the University of Calfornia has issued a new bulletin on the preparation of various products from prunes and a copy can be had upon request.

Behavior of Certified Food Colors (in Candy)

By E. J. Kessler. The Spice Mill, vol. 52, p. 2314.

IN order of light-resistance the primary certified food colors are rated about as follows:

Orange I, tartrazine, ponceau, amaranth, napthol yellow, guinea green, light green S F yellowish, indigotine, erythrosine. The difference in light-fastness between orange I, the best of the group, and erythrosine is considerable. The smaller the amount of color used, the less resistance it will have to light. Pale shades of erythrosine will be bleached in direct sunlight within an hour or two.

Amaranth and tartrazine are practically unaffected by hard water, but the others are affected to varying degrees, erythrosine being precipitated in normally hard water. Acids such as citric and tartaric have little if any influence on amaranth, ponceau, orange I, tartrazine, and indigotine. Light green S F yellowish and green B fade in solutions of these acids. Guinea green is more resistant to acid action, but erythrosine is precipitated by them.

Essential oils, generally speaking, affect colors, some to a slight degree and others to the point of elimination of the color. A table is given showing the effect of different essential oils on various colors. Calcium and magnesium salts in hard water have considerable effect on certified food colors, causing formation of insoluble calcium and magnesium salts of these colors. The effect of hard water on various colors is described. Orange I is the worst offender. A mixture of ponceau and tartrazine was found to be more satisfactory in making orange and egg shades.

Minta certified was found to turn yellow in candy made with sugar, water and egg albumin. The cause for this change is the appreciable alkalinity of the egg albumin, which is sufficient to render the guinea green B colorless, leaving the tartrazine unaffected. The original color is restored by addition of a small amount of acid. Light green S F yellowish is affected in a similar manner. There are two remedies: one, to use a green based upon indigotine certified and the other is to acidify with a small amount of citric or other fruit acid. Tests showed that in slightly acid candy the color is not affected, whereas in candy not neutralized the green fades in a short time. The presence of cream of tartar has no appreciable effect on retarding the fading of light green S F yellowish and guinea green B.

Paste colors may be made from 64 parts milk sugar, 28 parts glycerine and 8 parts dry color. The color and sugar should first be mixed thoroughly in the dry powdered form, after which the cold glycerine may be added. The mass should then be heated to a temperature of about 150° F., stirring continuously until a smooth and uniform paste has been produced.

Federal Standard Grades for Pecans Established Recently

The Peanut Journal, vol. 10, p. 29.

THE United States standards recently announced for unshelled pecans are given in full and discussed. *U. S. grade No. 1* consists of unshelled pecans which are fairly uniform in color, well sealed, dry, free from damage caused by stains, adhering hulls, or by loose hulls or other foreign material. The kernels shall be well cured, free from rancidity and from damage caused by shriveling, lack of development, insects, mold, discoloration or other means.

U. S. grade No. 2 consists of unshelled pecans which are well sealed, dry, and free from damage caused by stains, adhering hulls, or by loose hulls, or other foreign material. The kernels shall be well cured, free from rancidity and from damage caused by shriveling, insects or mold. *Unclassified* shall consist of unshelled pecans which will not meet the requirements of U. S. No. 1 or U. S. No. 2.

The size classifications for pecans sold in shell are given for oversize, large, medium and small, applying to both round type and long type pecans. A definition is also given for each term used in the grade specifications. The inspection force of the Federal Bureau of Agricultural Economics with representatives stationed in the leading markets stands ready to inspect shipments of pecans on the basis of these grades, for a nominal fee; and to issue certificates showing the result of the inspection.

Chocolate and Candy in 1930

By a Works Chemist. Food Manufacture, vol. 6, p. 10.

THE year 1930 has given its fair share to the confectionery industry in the way of improvements, adaptations and increased manufacturing efficiency. Work done by the Research Association (in Great Britain) on the fluidity of chocolate and the use of lecithin may prove very valuable, and the results obtained by manufacturers who have experimented with it have given the necessary stimulus for further research. Although cocoa butter is now at a price lower than it has been for many years, the prospect of making a coating with approximately 29 per cent of cocoa butter will do much to stabilize the quality of the product and eliminate cheaper fats—a step in the right direction.

From Austria comes the news that work has been carried out on the irradiation of chocolate with successful results. Apart from any selling stimulus which this may add to chocolate, it is hinted in the report of the experimenters that irradiation may have some effect on the tannins and those complex compounds which are the origin of the acridity in cocoa—a point worthy of note in the development of flavor in chocolate.

The development of the Drayton-Backes automatic regulator for enrober control gave yet another means of improving the product, as well as increasing the efficiency of production. The advent of the Velvos conche is an improvement of 1930 worthy of note.

The general introduction of Cerelose sugar (dextrose) on the market, and the work done on the use of this sugar in confectionery has been retarded owing to the abnormal sugar prices, but is an important additional string to the confectionery bow.

Pears—Candying and Preserving

By S. Blumenthal and L. Thuor. The Fruit Products Journal, vol. 10, *p.* 112.

PEARS darken when heated in syrup that does not have the correct acidity. Acids such as citric should be added to the syrup in order to assist in maintaining the desired whiteness. It is very important for candied pears to have a white base upon which brilliant colors, such as red and green, may be dyed. A discolored pear assumes a dull cast when colored with certified dyes.

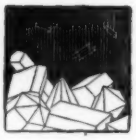
When pears are received from the orchards they are either stored in brined sodium bisulfite solution, or sulfured directly and stored in barrels of brine. The sulfuring treatment destroys molds and bacteria and bleaches and hardens the fruit. Before the pears are peeled they are blanched in acidulated hot water.

Syrups should not be added in too great concentration at first or "cording" of the pear will result. This condition will prevent proper diffusion of the syrups later in the process. Fruits that have a higher moisture content should receive a heavier initial syrup and those fruits which are firmer should receive a lighter initial syrup.

The peeled pears should be covered with a 20° Baumé sugar syrup, brought to a boil in a steam jacketed kettle, heated for three minutes, and then transferred to tubs. This process should be repeated on consecutive days, increasing the density of the syrup to 24°, 28°, 30° and 33° Baumé. Then after standing about seven days in 33° Baumé syrup, raise the Baumé to 36° with corn syrup, bring to a boil, hold for 3 minutes, transfer and allow to stand 3 to 4 days. Finally raise the Baumé to 40° with corn syrup and allow the pears to remain in this final syrup for several weeks.

In order to glacé the pears they are drained, immersed for 1 to 2 minutes in a sugar syrup cooked to about 240° F., and then drained and dried. An analysis of candied pears is as follows: Water 21.0 per cent, protein 1.1 per cent, fat 0.65 per cent, carbohydrates 76.0 per cent, ash 1.25 per cent.

Peanut Ranks High in Mineral Elements



By J. Geisler. The Peanut Journal, vol. 10, *p.* 7.

THE peanut may be classed in the category of foods known as "phosphorus bearing." The diet of the American people today is on the whole deficient in phosphorus. The peanut is also fairly rich in calcium, another important element. It contains about the same amount of iron as whole milk and more iron than pineapples, plums, turnips, sweet potatoes and butter.

The peanut also provides magnesium and sodium which are necessary to give firmness to the bone structure of the body and prevent softening of the tissues.

Black Walnuts, a Profitable Product

By J. R. Hershey. The Peanut Journal, vol. 10, *p.* 21.

THE use of black walnuts for baking and confectionery purposes has been increasing during the last few years. From a nutrition standpoint this nut supplies in a marked degree two of the major elements of food in the diet, namely, nitrogen and calcium. It has a good mineral balance and is not acid forming in the body. Also, it does not undergo putrefaction and does not produce toxins.

The one great difficulty in the development of a larger industry in the sale of black walnut meats is the recovery of the elusive meats from the hard partition shell. Ordinary cracking does not satisfactorily release the kernels, which are retained by the partitions of the hard shell.

Extensive research and experimenting have recently developed a practical and efficient hard shelled nut cracker which is unique and efficient in cracking black walnuts, butter nuts, shell barks and other hardshell nuts. It is anticipated that this invention will give a decided impetus to the marketing of black walnut meats.

Gum Thickeners and Emulsifiers for Flavors

By H. Bennett. The Fruit Products Journal, vol. 10, *p.* 80.

FORMULAS are given for preparing emulsion of orange and lemon oil which are suitable for use as flavors in candy. These emulsions can be prepared by either a hot or a cold method. "Emulsone A," a white, odorless, tasteless powder, is used as an emulsifying agent to stabilize the emulsions.

The formulas given can be used for preparing any emulsion flavor by substituting other oils or combinations of oils for lemon or orange oil. Emulsions made with 50 per cent of some oils are so thick that they will scarcely flow. The viscosity of a weak oil emulsion may be increased by mixing some cottonseed or other edible oil with the flavor oil used, before emulsification.

Improved Milk Dryer

By H. B. Cronshaw. Food Manufacture, vol. 6, *p.* 3.

J. E. NYROP of Copenhagen, Denmark, describes a new form of film dryer for milk which consists of a rapidly rotating chamber or pipe into which the milk is introduced. By means of centrifugal force the product is spread as a film over the walls of the chamber and hot air is passed through a chamber without itself taking up a rotatory movement (or rotating in the opposite direction). A high velocity between the current and the surface is thereby obtained, and the evaporation takes place in a short time at a very low temperature, although the temperature of the air current may be high. (It should be possible by this method to produce dried milk approaching still more closely in flavor to the original milk—Editor.)

Technical Progress in the Confectionery Industry During 1930

Food Industries, Vol. 3, p. 12.

THE past year has been marked by the appearance of considerable equipment for reducing labor, increasing production and giving better control over manufacturing operations. The greater part of this new equipment emphasizes production on a large-scale basis.

Perfection of transparent moisture-proof packaging material during late 1929 and early 1930 has almost revolutionized packaging of confectionery during the past year. The cost of this material has been so greatly reduced and its quality so improved that it is now in quite general use, whereas a year or so ago only the luxury type of confectionery was packaged in it. These developments show that confectionery made marked progress during the year toward being universally recognized by its producers, merchandisers and consumers as a food worthy of all the care and consideration that other foods receive in connection with their production merchandising.

What the Last Census of Manufactures Tells of Food Production (Confectionery and Chocolate)

Food Industries, Vol. 3, p. 4

THIS is a preliminary report of the last United States Census of manufactures which has just been released. It is subject to some revision before the final report is issued.

The following figures refer to the confectionery industry in 1929; the number of establishments was 1925, a 0.9% increase over 1927; the number of wage earners was 62,633, a decrease of 0.8% from 1927; wages amounted to $55,646,006, a decrease of 2.3% from 1927; cost of materials was $213,009,107 (not comparable with 1927); the total value of products was $388,708,398, a decrease of 0.8% from 1927; value added by manufacture was $175,669,291 (not comparable with 1927); and ratio of cost of raw materials to total value of products was 54.8% as compared with 55.8% for 1927.

The following figures refer to chocolate and cocoa products in 1929; number of establishments 58, a numerical decrease of 11 from 1927; number of wage earners 6,259, a decrease of 2.6% from 1927; wages $7,879,195, an increase of 7.4% over 1927; cost of materials $80,673,234, a decrease of 10.8% from 1927; total value of products $120,761,245 (chocolate coatings $49,864,589), a decrease of 1.6% from 1927; value added by manufacture $40,088,011, an increase of 24.1% over 1927; ratio of cost of raw materials to total value of products 67.0%, as compared with 73.8% for 1927.

Imports of "candy and confectionery" into the United States in 1929 were valued at $1,012,000 as compared with $976,000 in 1928. Exports of confectionery from the United States in 1929 were valued at $2,675,000, as compared with $2,766,000 in 1928.

Scientific Advances in the English Candy Industry

By Thomas Macara. The Confectioners' Union (British), Vol. 43, p. 5.

THE Director of the English Cocoa, Chocolate and Sugar Confectionery Research Association discusses the problems of the candy industry which have been investigated by the Association. The "graying" of chocolate was one of the first problems undertaken. The principles underlying "graying" ("fat bloom") were discovered and it is claimed that methods have been developed for its prevention (this information has not been published and has been circulated only among members of the Association).

"Sugar bloom" was also investigated and, as a result of the discoveries of the Research Association, manufacturers circulated among retailers a pamphlet on "Care of Chocolate," describing how this defect is caused by atmospheric humidity and indicating means of prevention. It was found that an atmosphere with a relative humidity of about 85% could penetrate a cardboard box without giving any indication of dampness on the box itself, although the chocolate coating of the candy inside would be found to be quite damp. The moisture thus absorbed by the surface layer of the chocolate dissolved some of the sugar in the chocolate, giving rise to a syrupy layer which dried out as soon as the box was removed to a drier atmosphere, leaving a film of fine crystals of sugar ("sugar bloom").

Means of controlling the cocoa moth have been investigated. Both the moths and the larvae can crawl through very small crevices. Boxes and other packages may therefore become infested at any period from the time the goods are manufactured until they reach the consumer. The Association has just issued a report giving the latest information on the subject of prevention. Other problems investigated by the Association are granulation and stickiness in confectionery, the chemical and physical principles underlying such processes as the manufacture of fondant and creams, and the defect known as "spotting" of fondants. Attention is also to be given to such raw materials as gelatin and starch. One of the principal needs is to educate retailers regarding proper methods of handling candy, especially with respect to temperature and humidity conditions.

The Show Window Package

By Waldon Fawcett. The Spice Mill, Vol. 52, p. 2262.

VARIATIONS of the transparent package are multiplying constantly and it is being applied to a continually increasing number of commodities. In the case of some commodities (including certain candies) the action of light is detrimental when the product is placed directly in a transparent container or in a container with a transparent window; various detrimental changes, including fading of colors, may result. In some cases this situation has been met by the use of the "shuttered window," the shutter being a flap of the standard carton stock which may be readily lifted to disclose a transparent pane beneath through which the product may be viewed, the shutter being then restored to its place.

The development of colored sheets of transparent cellulose suggests that here is a medium to defy the dangerous chemical elements in sunlight quite as effectively as the colored glass of jars and bottles.

JULY

7th Month
31 Days { 4 Saturdays / 4 Sundays }
Birth Stone: Ruby
Birth Flower: Water Lily

Day of Month	Day of Week	EVENTS
1	W	Monthly meeting, Retail Confectioners' Association, Philadelphia, Pa.
2	Th	If your plant hasn't been fumigated by now you can expect a fine lot of moths to hatch out within the next sixty days.
3	Fr	Monthly meeting, Wolverine Candy Club, Hotel Norton, Detroit, Mich.
4	Sa	Independence Day.
5	S	.....
6	M	Meeting directors, Fruit Flavor Syrups Association, Boston, Mass.
7	Tu	Annual three-day convention, National Retail Grocers' Association, Milwaukee, Wis.
8	W	Now is the time to push summer packages and summer candies.
9	Th	Monthly board of directors' meeting, California Walnut Growers' Exchange, Los Angeles, Calif. Monthly meeting, North Pacific Nut Growers' Cooperative, Dundee, Oregon.
10	Fr	.....
11	Sa	Have you planned your semi-annual inventory?
12	S	.....
13	M	Thanksgiving and Christmas sample boxes should be out now—and orders secured.
14	Tu	World's Dairy Congress opens, Copenhagen, Denmark (July 14 to 17).—Annual three-day gathering, National Confectionery Salesman's Association at Windsor, Canada.
15	W	Annual convention, Southern Wholesale Confectioners' Association, Hotel Ansley, Atlanta, Ga. (2 days only).—Monthly meeting, Diligence Club, Reading, Pa.
16	Th	Monthly meeting, Confectionery and Chocolate Manufacturers of N. Y. State, Hotel Pennsylvania, New York City.
17	Fr	Last day Copenhagen Dairy Congress.
18	Sa	New packages for the fall season should be well advanced by now.
19	S	.....
20	M	Tips on window displays will help your dealers sell more summer goods. There's a big job for your sales force.
21	Tu	.....
22	W	This is a good time for your semi-annual housecleaning, inspection and overhauling of machinery, etc.
23	Th	.....
24	Fr	You'll have a good chance to clean all your stock when the factory is closed down for vacation.
25	Sa	.....
26	Su	.....
27	M	Monthly meeting, Candy Executives and Allied Industries Club, New York City.
28	Tu	Monthly meeting, Candy Square Club, Hotel McAlpin, New York City.
29	W	.....
30	Th	Oh, yes! How about that sanitation survey?
31	Fr	Have you planned for Fall, Labor Day, Sweetest Day, Thanksgiving and others?

AUGUST

8th Month
31 Days { 5 Saturdays / 5 Sundays }
Birth Stone: Topaz
Birth Flower: Poppy

Day of Month	Day of Week	EVENTS
1	Sa	Are your moths hatching nicely? Too bad you didn't fumigate!
2	S	.....
3	M	Meeting directors, Fruit & Flavor Syrups Association, Boston, Mass.
4	Tu	.....
5	W	Monthly meeting, Retail Confectioners' Association, Philadelphia, Pa.
6	Th	.....
7	Fr	Monthly meeting, Wolverine Candy Club, Hotel Norton Detroit, Mich.
8	Sa	Be sure to have your fall packages out by the end of this month so they'll be ready for September sales.
9	S	.....
10	M	Monthly meeting, North Pacific Nut Growers' Cooperative, Dundee, Ore.
11	Tu	.....
12	W	.....
13	Th	Monthly board of directors meeting, California Walnut Growers' Exchange, Los Angeles, Cal.
14	Fr	Get Christmas orders in early. Give the factory time to turn out goods in the right way.
15	Sa	.....
16	S	.....
17	M	.....
18	Tu	.....
19	W	Monthly meeting, Diligence Club, Reading, Pa.
20	Th	Monthly meeting, Confectionery & Chocolate Manufacturers of New York State, Hotel Pennsylvania, New York City.
21	Fr	.....
22	Sa	Now's the time to start selling goods at a profit.—They've been selling long enough at cost—or less.
23	Su	.....
24	M	Monthly meeting, Candy Executives & Allied Industries Club, New York City.
25	Tu	Monthly meeting, Candy Square Club, Hotel McAlpin, New York City.
26	W	.....
27	Th	Monthly meeting, The Anthracite Club of Pennsylvania.
28	Fr	.....
29	Sa	From now on, BUSINESS SHOULD BE GOOD!
30	S	.....
31	M	Annual meeting, American Chemical Society, Buffalo, N. Y. (one week).

Courtesy Printers Ink Monthly

Candy Sample Room on Wheels

"A LITTLE store on wheels" might be a good name for this truck which is being used by Henry Heide, Inc., manufacturer of candy specialties, in calling on jobbers. Instead of carrying his samples into the jobber's office, the Heide salesman using the truck invite Mr. Jobber outside where by a mere push of a button he can transform what does not look very different from an ordinary truck into a small store. At the push of the button, the sides and roof of the truck expand as shown in the pictures, making a room interior which has been fitted up so that all the items in the Heide line are attractively displayed.

The interior of the truck contains counters as found in a candy store, on which Heide candies are arranged for the jobber's inspection. In the back a mirrored background is lighted so that the candies are revealed in a particularly pleasing setting. Other furnishings include a desk and chairs for the visitors. A center aisle into which the sides of the truck slide when closed provides the space for the visitors to move about in it. A cooling and heating arrangement is also included in the features of this store.

Salesmen who so far have used the truck have found a great deal of interest in it on the part of jobbers who often call in the retailers in their territory to see this novel display. With jobbers also asking to have the truck driven down their street in the evening so that the jobber's family and friends may have a look, the Heide salesman may find himself putting in as many as eighteen hours a day.

At present the truck is being used in Pennsylvania territory, returning to New York for servicing on occasion. It has proved its value not only as a novelty that attracts attention, but also makes it possible for the salesman to show every item in his line and give pointers on display.

Making the Right Weather for Candy Making

(*Continued from page* 30)

intermittent expansion and contraction. No relative humidity value should rise above 75 per cent because of the absorbing power of some chocolates for moisture. Sugar absorbs moisture above that relative humidity also, but as a rule hard candies are stored in glass air-tight containers incapable of air transfer. However, if the air in the jars contains much moisture taken from the candy itself, its relative humidity will naturally be high and even slight drops in dry bulb temperatures may go below the dew point of the confined air. This gives damp surfaces inside and may cause sticky hard candy. This is largely controlled by cooking and by packing in air of low moisture content.

If the low temperature storage is used, tempering rooms must be supplied so that the candy may warm up slowly and not cause dew formation and ultimate spoilage.

One of the biggest features of refrigeration in candy plants is the circulation into the working rooms of air which has been cleaned and made moist. The occupants of these rooms oftimes number several scores, but each obtains a plentiful supply of healthful, controlled weather regardless of the season, climate, or outside conditions. They are assured of fresh air at constant temperature by the automatic control devices which regulate and mix heat from steam coils with cool air from the refrigerating plant. Should a room have to be maintained at a temperature somewhat lower than that affording bodily comfort, the dress is modified to suit, and if necessary electric radiator units are furnished to supply warmth to those not active enough to remain comfortable. These rooms are a credit to heating and ventilating science. Temperature records over long periods will prove that only under unusual conditions does the fluctuation amount to more than a degree, plus or minus. To obtain this even temperature proper insulation is necessary, and present day building design supplies it. No heat, water, or steam leakages can go long unchecked without leaving their mark on the chart, provided recording hydrometers are conveniently located.

The effect of science upon an old industry can be readily discerned should one make a contrast of the 1930 candy plant with that of 1905 or even 1915. The strides made are remarkable, and no end is yet in sight. Obsolescence is rapid with a scientific industry. Industry expands overnight on the basis of the simplest chemical or physical principle properly applied, and such has been the case of applied artificial refrigeration in confectionery manufacture. The scientist, whether he be mechanical, thermal, chemical or electrical engineer, biochemist or doctor of medicine, is leaving indelible impressions in the realm of food production.

Uniform Cost Accounting Promotes Industrial Stability

(*Continued from page* 43)

but were met with a lack of co-operation and response and to say the least we became discouraged.

While we have already spent several thousand of dollars in our efforts to serve your industry without any financial return whatever, we are willing at any time that the manufacturing confectioners feel that they are ready to engage in a program of this kind, to lend our efforts to make it successful and profitable.

TRADE MARKS *for* Registration

THE following list of trade-marks published in the Patent Office Gazette for the past month, prior to registration, is reported to The Manufacturing Confectioner Publishing Co., by Mason, Fenwick & Lawrence, Patent and Trade-Mark Lawyers, Woodward Building, Washington, D. C.

Manufacturers and dealers in candies, confectionery and baking products who feel that they would be damaged by the registration of any of these marks are permitted by law to file within thirty days after publication of the marks a formal notice of opposition.

NEW YORKERS, Paul H. Raymer, doing business as The New Yorkers Company, New York, chewing gum. Use claimed since October, 1925.

BIG HORN, The Inter-State Grocery Company, Joplin, Mo., shelled popcorn, shelled nuts, candy. Use claimed since 1927.

GLE, G L E Candy Corp., Chicago, Ill., candy. Use claimed since December 1, 1930.

PEACH POP, Tom Houston Frosted Foods, Inc., Columbus, Ga., frozen confection. Use claimed since January 30, 1931.

HAPPY JACK, J. Hungerford Smith Co., Rochester, N. Y., coating material for ice cream confections made from vegetable fat. Use claimed since April 4, 1931.

DRUMSTICK, I. C. Parker, Fort Worth, Tex., ice cream confection. Use claimed since March 11, 1931.

LADY BELL'S, T. A. Faulds Co., Inc., Boston, Mass., food product for use of bakers, and other suitable ingredients for use in producing a variety of cakes. Use claimed since January 26, 1925.

CHEERIO, The Vonieff-Drayer Company, Baltimore, Md., candies and assorted cakes. Use claimed since August, 1930.

LUCKY PENNY, Orbit Listerated Gum Company, Chicago, Ill., chewing gum. Use claimed since April 22, 1931.

CLIFTON, The Kroger Grocery & Baking Co., Cincinnati, Ohio, marshmallow creme, popcorn. Use claimed since 1885.

DUTCHLAND, Fred F. Field Holsteins Dutchland Farms Trustees, Brockton, Mass., ice cream. Use claimed since 1903.

JM and shield design, John Mulhern Company, San Francisco, Calif., nuts, glace fruits. Use claimed since October 7, 1929.

PUTMAN, The Robert Putman Candy Co., Cincinnati, O., candies. Use claimed since April 8, 1893.

Blue and yellow design, California Packing Corp., San Francisco, Calif., cookies, candies. Use claimed since April 25, 1930.

HAMMERED, Johnson Educator Food Company, Cambridge, Mass., biscuits. Use claimed since January 22, 1931.

GADGET ROLL, Lowell E. Cadd, Albert Lea, Minn., pastry. Use claimed since March 1, 1931.

MOSSELPROM, Amtorg Trading Corporation, New York, N. Y., candy. Use claimed since January, 1925.

BANANA CIRCLE, Tom Houston Frosted Foods, Inc., Columbus, Ga., frozen confection. Use claimed since January 30, 1931.

HAPPY JACK LOLLYPOP COATING, J. Hungerford Smith Co., Rochester, N. Y., coating material for ice cream confections made from vegetable fats. Use claimed since April 4, 1931.

SCHRAUTH'S DUTCHESS, J. Schrauth's Sons, Inc., Poughkeepsie, N. Y., ice cream. Use claimed since March 1, 1931.

GRAN DEE, F. H. Roberts Company, Boston, Mass., chocolates. Use claimed since May 3, 1931.

BELIEVE IT OR NOT! National Features, Inc., Boston, Mass., candy. Use claimed since May 13, 1931.

CHAPPIES, Candy Kitchens, Inc., Chicago, Ill., candy. Use claimed since March 4, 1931.

MRS. STARD'S, New Standard Baking Company, Philadelphia, Pa., cakes. Use claimed since February 6, 1931.

VIOLET LIFE SAVERS and design, Life Savers, Inc., Port Chester, N. Y., candy. Use claimed since July, 1925.

CINNAMON LIFE SAVERS and design, Live Savers, Inc., Port Chester, N. Y., candy. Use claimed since July, 1920.

LICORICE LIFE SAVERS and design, Life Savers, Inc., Port Chester, N. Y., candy. Use claimed since February, 1919.

PEPOMINT LIFE SAVERS and design, Life Savers, Inc., Port Chester, N. Y., candy. Use claimed since June, 1914.

CLOVE LIFE SAVERS and design, Life Savers, Inc., Port Chester, N. Y., candy. Use claimed since May, 1915.

WINTOGREEN LIFE SAVERS and design, Life Savers, Inc., Port Chester, N. Y., candy. Use claimed since 1914.

ZOYA'S, Zoya Matzka, Rye Hill, Monroe, N. Y., candy and pastries. Use claimed since March 14, 1930.

SORDILLO, Joseph Louis Sordillo, doing business as Sordillo Candy Co., Baltimore, Md., candy. Use claimed since April 23, 1929.

MILK-E-PAK, S & S Cone Corp., New York, N. Y., ice cream sandwich wafers. Use claimed since April 15, 1930.

COLD SNAP, Cold Snap, Inc., New York, N. Y., frozen confection. Use claimed since March 26, 1930.

HETHO-FLAKE, Ronald Hilton Martin, doing business as Martin Baking Co., Lubbock, Tex., bread, crackers, etc., and material for making bread, crackers. Use claimed since March 25, 1931.

PEPSIN, Wm. Wrigley Jr. Company, Chicago, Ill., chewing gum. Use claimed since April 22, 1931.

Scale and pestle design, Wm. Wrigley Jr. Company, Chicago, Ill., chewing gum. Use claimed since April 22, 1931.

Two elfin figures, Orbit Listerated Gum Company, Chicago, Ill., chewing gum. Use claimed since April 22, 1931.

PI-STOK, H. A. Johnson Company, Boston, Mass., pie and pastry fillings. Use claimed since 1890.

O'KAY, Jerome F. Glasser, Cicero, Ill., ice cream and frozen confections. Use claimed since September 1, 1930.

MILK-FROST, W. S. MacGillivray, San Antonio, Tex., frozen confection. Use claimed since April 4, 1900.

HONEY (CHEW) DELIGHT CANDY, George D. Leocopoulos, Chicopee Falls, Mass., candy. Use claimed since December 10, 1930.

KOOKIKID, The Rochester Bread Company, Rochester, Minn., cookies. Use claimed since April 1, 1931.

UNCLE DON, Pure Candy Kitchen, Inc., New York, N. Y., chocolate. Use claimed since April 22, 1931.

POPEYE, BLOW ME DOWN, Elmer Candy Co., Inc., New Orleans, La., candy. Use claimed since April 30, 1931.

CHAMPAGNE, Dilling & Company, Indianapolis, Ind., candies. Use claimed since April, 1895.

PERKY, Candy Kitchens, Inc., Chicago, Ill., candy. Use claimed since April 1, 1931.

Sales and factory staff of Merckens Chocolate Co., Inc., Buffalo, New York, who recently held a convention in Buffalo.

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